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Research article

Identification of a novel snoRNA expression signature associated with overall survival in patients with lung adenocarcinoma: A comprehensive analysis based on RNA sequencing dataset

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Supplementary

Table S1. Demographic data of 500 patients included in prognostic analysis in the TCGA LUAD cohort.

Variables	Events/total (n = 500)	MST (days)	Crude HR (95% CI)	Log-rank *P*
Age (years)[a]				0. 386
⩽ 65	74/215	1499	1	
➢ 65	99/264	1454	1.143 (0.845-1.546)	
Gender				0.754
Female	96/270	1454	1	
Male	86/230	1528	1.048 (0.783-1.403)	
Tumor Stage [b]				< 0.0001
Stage I	65/268	2620	1	
Stage II	54/119	1209	2.473 (1.719-3.559)	
Stage III	45/80	879	3.495 (2.383-5.126)	
Stage IV	16/25	826	3.819 (2.201-6.629)	
Tumor Stage [b]				< 0.0001
Stage I+II	119/387	1632	1	
Stage III+IV	61/105	826	2.585 (1.894-3.528)	

Notes: a Information of age was unavailable in 21 patients; b Information of tumor stage was unavailable in 8 patients.

Abbreviation: TCGA, The Cancer Genome Atlas; MST, median survival time; LUAD, lung adenocarcinoma; HR, hazard ratio; CI, confidence interval.

Table S2. Survival analysis results of snoRNA in TCGA LUAD cohort.

ID	Adjusted Pƛ	HR	Low 95%CI	High 95%CI
snoU109|ENSG00000238832	0.009846284	1.482519	1.099398	1.999151
U8|ENSG00000239148	0.010418736	0.677437	0.502876	0.91259
SNORA70|ENSG00000206886	0.017173982	0.697903	0.51918	0.93815
U3|ENSG00000207119	0.030339121	0.720103	0.534974	0.969297
SNORA5A|ENSG00000206838	0.036390775	1.369859	1.020138	1.83947
SNORD7|ENSG00000207297	0.037602647	0.73046	0.543267	0.982155
SNORD104|ENSG00000199753	0.044011334	0.736418	0.546781	0.991827
U3|ENSG00000221044	0.061070408	0.754489	0.561855	1.013168
SNORA5C|ENSG00000201772	0.064416969	1.323813	0.983351	1.782152
SNORA9|ENSG00000252192	0.064465027	0.755091	0.560627	1.01701
SNORA54|ENSG00000207008	0.064595674	0.757066	0.56357	1.016997
SNORD88A|ENSG00000221241	0.073531768	1.307652	0.974775	1.754204
SNORD15A|ENSG00000206941	0.074320315	1.306531	0.974074	1.752457
SNORA15B-1|ENSG00000206785	0.076448663	1.304732	0.972126	1.751137
SNORD116-2|ENSG00000207001	0.080345273	0.769276	0.573324	1.0322
SNORA58|ENSG00000249020	0.081935056	0.76783	0.570156	1.034038
SNORA75|ENSG00000212440	0.084349736	1.296392	0.965422	1.740827
SNORA1B|ENSG00000199405	0.090429978	0.775378	0.577583	1.040908
SNORA48|ENSG00000252774	0.094446457	0.776391	0.577112	1.044481
SNORA40|ENSG00000212579	0.09530474	1.285931	0.956945	1.728018
SNORD100|ENSG00000221500	0.100955346	1.279795	0.95305	1.718561
SNORA4|ENSG00000202434	0.111346735	1.269432	0.946381	1.702759
SNORA68B|ENSG00000201388	0.11254249	1.267948	0.945713	1.699978
SNORA14B|ENSG00000207181	0.133047892	1.25363	0.933435	1.68366
SNORA67|ENSG00000252473	0.134710487	0.797664	0.593161	1.072674
SNORA48|ENSG00000212445	0.138135285	0.800061	0.595757	1.074428
SNORA63|ENSG00000252448	0.138753662	0.799831	0.595083	1.075026
SNORA13|ENSG00000238363	0.140051313	1.253137	0.928607	1.691082
SNORD6|ENSG00000202314	0.143321549	0.802557	0.597792	1.077462
snoU13|ENSG00000239035	0.151273111	0.805883	0.600151	1.082141
SNORA55|ENSG00000201457	0.153307326	0.804736	0.59725	1.084304
SNORA19|ENSG00000222588	0.157703593	1.237208	0.920876	1.662203
U3|ENSG00000199370	0.1589506	0.80937	0.603033	1.086308
snoZ196|ENSG00000281780	0.159380062	0.809596	0.603253	1.086518
SNORA48|ENSG00000212391	0.162776254	0.810958	0.604247	1.088384
SNORA71B|ENSG00000235408	0.164556606	0.809849	0.601508	1.090353
SNORA48|ENSG00000252824	0.167408043	1.232484	0.916014	1.658289
SNORA12|ENSG00000212342	0.169310076	1.231207	0.915201	1.656326
SNORA2B|ENSG00000207313	0.171349492	1.228384	0.914812	1.64944
SNORA22C|ENSG00000207344	0.171538134	1.228554	0.914639	1.65021
SNORA58|ENSG00000201003	0.172355995	1.23194	0.913027	1.662247

U8|ENSG00000239142	0.182608943	0.817994	0.608751	1.099157
SNORA19|ENSG00000207468	0.183535409	0.819415	0.610989	1.098941
SNORA12|ENSG00000212464	0.191792491	0.822773	0.61386	1.102786
SNORA11|ENSG00000221716	0.191966136	1.216808	0.906164	1.633945
SNORA23|ENSG00000201998	0.194120786	1.216918	0.904828	1.636652
SNORA33|ENSG00000200534	0.194376905	1.215797	0.905099	1.633149
SNORD91A|ENSG00000212163	0.194412684	0.821893	0.611156	1.105298
SNORA22|ENSG00000199571	0.197931503	1.215233	0.903189	1.635085
U3|ENSG00000275154	0.216580302	0.830472	0.618533	1.115033
SNORD11|ENSG00000238317	0.216842057	0.829945	0.617414	1.115636
SNORA74D|ENSG00000252213	0.221069435	1.201948	0.895229	1.613753
SNORA75|ENSG00000212533	0.221822435	1.200896	0.895272	1.610854
SNORD13P3|ENSG00000239128	0.228628884	0.835163	0.622892	1.11977
SNORA2A|ENSG00000206612	0.229402818	0.835005	0.62228	1.12045
ACA64|ENSG00000239005	0.23456243	0.836468	0.623133	1.122841
SNORD94|ENSG00000208772	0.236344097	1.194711	0.889985	1.603773
SNORA76|ENSG00000252122	0.241472504	0.837873	0.623207	1.126482
SNORA22|ENSG00000206634	0.243124001	0.838842	0.62449	1.126769
SNORD67|ENSG00000212135	0.244847883	1.191579	0.88681	1.601088
SNORA70|ENSG00000200237	0.248461862	0.840795	0.626316	1.128721
SNORA59B|ENSG00000266079	0.249798088	0.841494	0.627202	1.129002
SNORA65|ENSG00000201302	0.250737656	1.188037	0.885393	1.594131
SNORD53B|ENSG00000265706	0.253048374	0.842552	0.628074	1.130271
U3|ENSG00000212479	0.255070891	1.187715	0.883181	1.597256
SNORD63B|ENSG00000222937	0.255739573	0.84256	0.627042	1.132152
SNORD127|ENSG00000239043	0.255922496	0.841306	0.624431	1.133504
SNORA7|ENSG00000206913	0.264323867	0.845873	0.630467	1.134876
SNORD69|ENSG00000212452	0.269702837	0.846346	0.629349	1.138161
SNORA20|ENSG00000207392	0.276689809	1.177336	0.877309	1.579968
SNORD56|ENSG00000201151	0.285582822	1.173455	0.874917	1.57386
SNORA11F|ENSG00000221164	0.287723276	1.175642	0.872404	1.584282
SNORD46|ENSG00000200913	0.289914008	0.852634	0.634654	1.145483
SNORD14E|ENSG00000200879	0.290063412	1.171633	0.873679	1.5712
SNORA2|ENSG00000206647	0.301248252	1.167384	0.870521	1.565483
SNORA63C|ENSG00000201448	0.306876167	0.857115	0.637673	1.152074
SNORD38|ENSG00000207199	0.31211422	1.16584	0.865812	1.569837
SNORA22B|ENSG00000206603	0.316675223	1.161468	0.866488	1.556867
SNORA71C|ENSG00000201512	0.317200796	1.162246	0.865656	1.560455
SNORD9|ENSG00000199436	0.323980052	0.860911	0.639306	1.15933
SNORA58B|ENSG00000201129	0.324464729	1.159005	0.864191	1.554393
SNORA74C-1|ENSG00000265733	0.327188901	0.862466	0.641507	1.159532
SNORA75|ENSG00000212593	0.335050751	0.865256	0.644686	1.16129
SNORA31|ENSG00000251999	0.351467911	1.150841	0.856381	1.546549
SNORD45|ENSG00000252438	0.351792797	0.869831	0.648556	1.166601

SNORA27|ENSG00000200235	0.352884598	0.869382	0.647085	1.168047
SNORA80E|ENSG00000207475	0.356973929	1.147451	0.856318	1.537566
SNORA51|ENSG00000206878	0.357427852	1.149371	0.854466	1.546056
SNORD116-6|ENSG00000207442	0.357652008	0.870604	0.648027	1.169628
SNORA4|ENSG00000251730	0.359009383	0.870812	0.647973	1.170286
ACA59|ENSG00000251775	0.359939049	0.870556	0.647004	1.171349
SNORA49|ENSG00000208892	0.361755206	1.14627	0.854826	1.53708
snoZ6|ENSG00000252200	0.374433086	0.875371	0.652574	1.174234
SNORA40B|ENSG00000208308	0.377794469	0.874442	0.648995	1.178203
SNORD42B|ENSG00000238423	0.384157714	1.141829	0.846983	1.539314
SNORD17|ENSG00000212232	0.389117093	1.138529	0.847454	1.52958
SNORA57|ENSG00000212567	0.390900466	1.138202	0.846824	1.529838
SNORA16|ENSG00000212293	0.394246648	0.879056	0.653464	1.182528
SNORA26|ENSG00000212517	0.39483389	1.136815	0.84608	1.527453
SNORA7|ENSG00000222604	0.414817031	0.884262	0.657939	1.188438
SNORD67|ENSG00000252427	0.414964922	1.130515	0.84175	1.518342
SNORD116-19|ENSG00000207460	0.423831912	0.886723	0.660447	1.190524
U8|ENSG00000238840	0.424308446	0.886933	0.660787	1.190476
SCARNA10|ENSG00000239002	0.429446613	1.126463	0.838362	1.513568
SNORA15B-2|ENSG00000207062	0.429878158	0.88835	0.662104	1.191907
snoU13|ENSG00000238326	0.431931446	1.12529	0.838328	1.510481
SNORA80A|ENSG00000200792	0.434514505	1.126781	0.83527	1.520031
SNORA31|ENSG00000252050	0.436637969	0.889653	0.662639	1.194441
SNORD62B|ENSG00000231587	0.439765283	0.88954	0.661006	1.197088
SNORA67|ENSG00000201619	0.443348798	1.122602	0.835229	1.508849
SNORD112|ENSG00000238966	0.444868361	0.891476	0.663929	1.197011
SNORD88|ENSG00000221611	0.449294572	1.120945	0.83394	1.506725
SNORA70F|ENSG00000206869	0.451689401	0.892676	0.664183	1.199774
SNORA26|ENSG00000212187	0.453102238	1.119528	0.833559	1.503604
SNORD1B|ENSG00000199961	0.455390697	0.894104	0.666421	1.199575
SNORD8|ENSG00000200785	0.455522874	1.119136	0.83271	1.504084
SNORA71D|ENSG00000200354	0.463166914	1.11665	0.831579	1.499446
SNORD38C|ENSG00000207109	0.463952384	0.895991	0.667815	1.202129
SNORA50A|ENSG00000281910	0.464423498	0.895988	0.667599	1.202509
SNORA43|ENSG00000281863	0.468877879	1.116214	0.828979	1.502972
SNORD72|ENSG00000212296	0.474814703	1.115211	0.826953	1.50395
SNORA51|ENSG00000206898	0.475232153	0.897696	0.667522	1.207238
SNORD13E|ENSG00000238311	0.482004582	0.899084	0.668361	1.209455
SNORA81|ENSG00000253092	0.482744996	0.899813	0.670081	1.208307
SNORA77|ENSG00000221083	0.485453348	0.900688	0.671337	1.208394
SNORD116-27|ENSG00000251896	0.487621728	0.901135	0.671627	1.209072
SNORD105B|ENSG00000238531	0.488146473	0.90129	0.671828	1.209123
SNORD71|ENSG00000223224	0.48997498	1.109453	0.826114	1.489972
SNORD73B|ENSG00000201264	0.491190554	0.901064	0.669794	1.212187

SNORD121A|ENSG00000238886	0.491470126	1.108439	0.826671	1.486246
SNORA14|ENSG00000251922	0.494432539	0.901635	0.669943	1.213456
SNORA35B|ENSG00000271907	0.495121103	1.108609	0.824379	1.490836
SCARNA18|ENSG00000238835	0.498442686	0.901986	0.669095	1.215937
SNORD59A|ENSG00000207031	0.499918508	0.903249	0.672071	1.213947
ACA64|ENSG00000238934	0.50113928	1.10594	0.824738	1.483021
SNORD19|ENSG00000222345	0.501965815	0.90441	0.674508	1.212674
SNORA25|ENSG00000200075	0.502066468	0.903713	0.672425	1.214555
SNORD19B|ENSG00000280904	0.502723211	0.904399	0.674124	1.213334
SNORD123|ENSG00000239112	0.503444553	1.106175	0.823093	1.486614
SNORD53|ENSG00000265145	0.50406566	1.105187	0.824161	1.48204
SNORA18|ENSG00000252719	0.504617801	1.106336	0.822191	1.488678
SNORD93|ENSG00000221740	0.50563792	1.104822	0.823797	1.481713
SNORA51|ENSG00000271798	0.510955455	1.10381	0.822243	1.481797
SNORA31|ENSG00000252349	0.515961842	0.906799	0.675009	1.218181
SNORD12B|ENSG00000222365	0.516867607	1.101922	0.821667	1.477766
snoU13|ENSG00000239096	0.51993721	1.101199	0.820994	1.477038
SNORA38|ENSG00000200816	0.521829375	0.90813	0.676214	1.219584
SNORA53|ENSG00000212443	0.522003746	1.101659	0.819091	1.481709
SNORA62|ENSG00000202374	0.523120302	0.908863	0.677815	1.218667
SNORA73B|ENSG00000200087	0.524959272	0.90906	0.677532	1.219705
U3|ENSG00000271817	0.525298723	0.909269	0.678005	1.219414
U3|ENSG00000200693	0.53636105	0.911413	0.679237	1.222952
SNORA51|ENSG00000207022	0.537689944	0.911726	0.679559	1.223212
SNORD56B|ENSG00000207444	0.541082175	1.096756	0.815609	1.474817
SNORA16B|ENSG00000201544	0.543222209	0.912789	0.680156	1.224989
SNORA70|ENSG00000201376	0.54810735	0.913432	0.67975	1.227448
SNORA26|ENSG00000212588	0.55222411	0.914309	0.68047	1.228506
snoU2_19|ENSG00000201592	0.557088564	1.092093	0.81386	1.465446
SNORA76|ENSG00000252904	0.562065751	1.091423	0.811998	1.467004
SNORA36|ENSG00000206731	0.564183127	1.08995	0.813324	1.460661
SNORA26|ENSG00000252236	0.566921216	1.089443	0.812559	1.460676
SNORA73|ENSG00000199977	0.573867122	1.087656	0.811541	1.457715
SNORD91B|ENSG00000275084	0.574444074	0.919312	0.685379	1.23309
U3|ENSG00000199856	0.576744626	0.919396	0.684448	1.234994
snoU13|ENSG00000239129	0.581577569	1.086356	0.809159	1.458514
SNORA67|ENSG00000212338	0.58555004	0.921591	0.687191	1.235944
SNORD62A|ENSG00000235284	0.590805559	1.08425	0.807369	1.456085
SNORA66|ENSG00000207523	0.59171479	0.921802	0.684567	1.241252
SNORD38|ENSG00000252408	0.595002663	0.923484	0.688605	1.238479
SNORA62|ENSG00000201157	0.597215378	1.082853	0.806018	1.454771
SNORD19|ENSG00000212493	0.598057599	1.082512	0.806161	1.453595
snoU109|ENSG00000238575	0.599981025	0.923191	0.684817	1.24454
SNORA80B|ENSG00000206633	0.604088536	1.081486	0.804318	1.454166

SNORA30|ENSG00000200063	0.609231096	0.926402	0.691037	1.241933
SNORD116-26|ENSG00000251815	0.611342512	1.080047	0.802518	1.45355
SNORD111|ENSG00000252230	0.615199478	0.927158	0.690369	1.245162
SNORD11B|ENSG00000271852	0.615316809	1.078419	0.803345	1.447681
SNORA81|ENSG00000238390	0.621465504	0.92856	0.69189	1.246187
SNORA71A|ENSG00000225091	0.626606232	1.075729	0.801647	1.443519
SNORD121B|ENSG00000238300	0.632354094	1.074025	0.801595	1.439043
SNORA2C|ENSG00000221491	0.633696258	0.930477	0.691818	1.251467
U3|ENSG00000212182	0.634315672	0.931187	0.694152	1.249165
SNORA31|ENSG00000252096	0.635423264	1.073906	0.799744	1.442054
SNORA26|ENSG00000212624	0.636495925	0.931492	0.694002	1.250253
SNORD99|ENSG00000221539	0.638773124	0.930554	0.689011	1.256772
U8|ENSG00000238963	0.64011455	0.932246	0.694702	1.251013
SNORD56|ENSG00000200753	0.641379773	0.93257	0.695186	1.251013
SNORA80D|ENSG00000207217	0.64785519	0.93363	0.69533	1.2536
SNORA38B|ENSG00000200394	0.651335824	0.933989	0.694562	1.25595
SNORA70B|ENSG00000206937	0.652905734	0.934886	0.697144	1.253704
SNORA69|ENSG00000212206	0.653500523	1.069811	0.796801	1.436361
SNORA70|ENSG00000251893	0.66182051	1.067751	0.795972	1.432328
SNORA70|ENSG00000202379	0.67143486	0.938576	0.700262	1.257992
SNORD60|ENSG00000206630	0.678404145	0.939712	0.700398	1.260796
SNORD116-24|ENSG00000207279	0.681432141	0.940258	0.700675	1.261763
SNORD124|ENSG00000238793	0.683713273	0.940336	0.69944	1.2642
SNORA70|ENSG00000252657	0.692501805	0.942346	0.702093	1.264814
SNORA25|ENSG00000201957	0.69889921	0.943592	0.703099	1.266346
snoU2-30|ENSG00000201882	0.70367585	1.059011	0.788118	1.423017
SNORD92|ENSG00000264994	0.707898495	1.058123	0.787384	1.421955
SNORA46|ENSG00000212371	0.708561009	0.945519	0.70485	1.268363
SNORD13P1|ENSG00000238498	0.7125295	1.056714	0.78799	1.417079
SNORA31|ENSG00000253059	0.732958072	0.949956	0.707333	1.275803
SCARNA12|ENSG00000238795	0.741476088	0.951804	0.709737	1.276432
SNORA31|ENSG00000253013	0.749220515	0.952978	0.70931	1.280354
SNORD48|ENSG00000201823	0.752553445	0.953097	0.70703	1.284801
SNORD14A|ENSG00000272034	0.764564064	1.046202	0.778478	1.405998
SNORA79|ENSG00000221303	0.773729549	1.044154	0.777753	1.401804
SNORA28|ENSG00000272533	0.776152612	0.957786	0.71146	1.289397
SNORA12|ENSG00000212175	0.783600475	0.959802	0.716168	1.286317
SNORD3B-2|ENSG00000262074	0.784930041	0.959886	0.715357	1.288003
SNORD63|ENSG00000251987	0.786088446	1.041662	0.775724	1.39877
SNORD83A|ENSG00000209482	0.790370478	0.960932	0.716282	1.289143
SNORA3|ENSG00000221639	0.794091009	0.961679	0.717128	1.289625
SNORA51|ENSG00000207171	0.794586587	0.961451	0.715161	1.292559
SNORD63|ENSG00000206989	0.794695926	1.039633	0.775783	1.393218
SNORD89|ENSG00000212283	0.795225312	0.961827	0.716877	1.290473

SNORD116-14|ENSG00000206621	0.808191497	0.964249	0.718683	1.293722
SNORD37|ENSG00000206775	0.808381634	1.037023	0.773017	1.391195
SNORD117|ENSG00000201785	0.811247003	0.964883	0.719546	1.29387
SNORD116-4|ENSG00000275529	0.81294139	0.965161	0.719522	1.29466
snoU13|ENSG00000239093	0.81482682	1.035727	0.772082	1.3894
SNORA63|ENSG00000201791	0.821167182	1.034727	0.769618	1.391159
SNORA2|ENSG00000202343	0.824259216	0.967309	0.721385	1.29707
SNORA77|ENSG00000221643	0.824678251	1.0337	0.770978	1.385949
U3|ENSG00000199851	0.824989788	0.967103	0.718974	1.300866
SNORD111|ENSG00000221066	0.827469243	1.033347	0.769366	1.387904
SNORA11B|ENSG00000221102	0.829476099	1.033074	0.768299	1.389098
SNORA70|ENSG00000253042	0.835899136	0.969226	0.721073	1.302779
snoU13|ENSG00000239079	0.838298782	0.969804	0.722421	1.301899
SNORA46|ENSG00000207493	0.841210868	1.030582	0.76753	1.383789
SNORD51|ENSG00000207047	0.844413775	1.029803	0.768029	1.380799
SNORA74B|ENSG00000212402	0.846723456	1.029528	0.766465	1.38288
SNORD101|ENSG00000206754	0.846775339	1.029263	0.7682	1.379044
SNORD3A|ENSG00000263934	0.847765566	1.02912	0.767701	1.379557
SNORD36C|ENSG00000252542	0.850964517	0.972219	0.724645	1.304377
SNORA24B|ENSG00000206903	0.853807479	1.027952	0.766688	1.378248
SNORD58|ENSG00000212615	0.855732906	1.027917	0.763918	1.38315
SNORA48|ENSG00000212458	0.857439494	0.973445	0.725735	1.305703
SNORA31|ENSG00000199477	0.859525272	0.973763	0.7254	1.307161
SNORD15B|ENSG00000207445	0.861132663	1.026452	0.766124	1.375238
SNORD116-1|ENSG00000207063	0.862101906	1.026561	0.763699	1.379899
SNORA63D|ENSG00000201229	0.867504945	1.025379	0.763851	1.37645
SNORA60|ENSG00000199266	0.868261145	1.02518	0.764153	1.375371
SNORD18|ENSG00000200677	0.868820036	0.975468	0.726446	1.309855
SNORA47|ENSG00000238961	0.870863389	1.024939	0.761581	1.379367
SNORA73|ENSG00000222145	0.878315425	1.023281	0.762159	1.373865
SNORA75|ENSG00000206885	0.880584116	0.977661	0.728084	1.312791
SNORA70G|ENSG00000206650	0.881888913	1.022465	0.76273	1.370646
SNORA18|ENSG00000206592	0.881894993	1.022698	0.760601	1.375111
SNORA3B|ENSG00000212607	0.882039626	1.022475	0.762344	1.37137
SNORA43|ENSG00000252461	0.890601446	0.97963	0.730636	1.313479
SNORA14A|ENSG00000201643	0.892898298	1.020332	0.761182	1.367712
SNORD115|ENSG00000212411	0.893769138	0.980164	0.730439	1.315265
snoU13|ENSG00000238295	0.898713029	0.981044	0.730644	1.317258
SNORA74|ENSG00000223111	0.899683118	0.981236	0.730925	1.31727
SNORA40|ENSG00000253047	0.900829325	0.981482	0.731482	1.316924
SNORD116-13|ENSG00000207137	0.902688362	0.981746	0.730702	1.319039
SNORD116|ENSG00000252985	0.902886276	0.981874	0.731891	1.31724
SNORD3B-1|ENSG00000265185	0.915899377	1.015976	0.757054	1.363453
SNORA57|ENSG00000223027	0.916829395	0.984463	0.733772	1.320802

SNORD65C|ENSG00000212264	0.923074215	1.01464	0.755424	1.362804
SNORD111B|ENSG00000221514	0.926533927	1.013963	0.755117	1.361539
SNORA30|ENSG00000206755	0.931020952	0.987108	0.735807	1.324236
U3|ENSG00000238297	0.933064119	0.987456	0.735504	1.325715
SNORA37|ENSG00000207233	0.933512302	1.012711	0.752677	1.362581
SNORD114-3|ENSG00000201839	0.934163969	1.012518	0.753731	1.360157
SNORA44|ENSG00000252840	0.935165502	1.012264	0.754651	1.357817
SNORA15|ENSG00000207168	0.936934698	1.011949	0.753999	1.358146
SNORA79B|ENSG00000222489	0.937544863	1.012	0.750924	1.363846
SNORA74|ENSG00000252917	0.938048566	1.011815	0.752433	1.360611
SNORA42|ENSG00000200385	0.944958149	0.989625	0.736009	1.330632
SNORA72|ENSG00000200355	0.95116143	1.009247	0.751754	1.354938
SNORD12C|ENSG00000209042	0.951350524	1.009164	0.752829	1.352779
snoU13|ENSG00000238372	0.95686062	1.008197	0.750052	1.355187
SNORA48|ENSG00000212181	0.960361891	0.992531	0.738476	1.333987
SNORA1|ENSG00000202059	0.972517969	0.994854	0.741779	1.33427
SNORA59A|ENSG00000239149	0.972621504	0.994891	0.742566	1.332955
SNORA9B|ENSG00000206897	0.975798954	0.995468	0.742281	1.335015
SNORA69|ENSG00000206622	0.976792312	0.995648	0.742166	1.335707
SNORA7B|ENSG00000207088	0.976986855	0.995693	0.742622	1.335007
SNORA72|ENSG00000201944	0.982682449	1.003245	0.748762	1.34422
SNORA17|ENSG00000212461	0.983435348	0.99688	0.742197	1.338956
SNORA84|ENSG00000239183	0.985578173	1.002738	0.745498	1.34874
SNORA7|ENSG00000206976	0.986281721	1.002579	0.747495	1.344711
SNORA74A|ENSG00000200959	0.99230388	1.00145	0.745998	1.344377
U3|ENSG00000212195	0.997049282	1.000554	0.745947	1.342065
SNORD70|ENSG00000212534	0.999101972	0.99983	0.743786	1.344016

Notes: ƛ adjusted for tumor stage.

Table S3. snoRNA co-expressed genes list

ID	ID	r	P value
SNORA5A	TARDBP	−0.32	0.002084
SNORA5A	ATF7	−0.308	0.002998
SNORA5A	SP2	−0.303	0.003477
SNORA5A	SF1	−0.295	0.004389
SNORA5A	PRKACA	−0.293	0.004649
SNORA5A	CTDNEP1	−0.29	0.005065
SNORA5A	HNRNPH3	−0.288	0.00536
SNORA5A	RAB5B	−0.285	0.005833
SNORA5A	ATN1	−0.284	0.005999
SNORA5A	SPPL3	−0.281	0.006522
SNORA5A	TBC1D17	−0.278	0.007085
SNORA5A	VAMP2	−0.278	0.007085
SNORA5A	CTDSP1	−0.274	0.007905
SNORA5A	RNF10	−0.274	0.007905
SNORA5A	SLC25A28	−0.27	0.008808
SNORA5A	NXF1	−0.268	0.009293
SNORA5A	PTPN23	−0.268	0.009293
SNORA5A	SETD1B	−0.263	0.010612
SNORA5A	HNRNPA3	−0.26	0.011481
SNORA5A	SRSF4	−0.256	0.012738
SNORA5A	DAZAP1	−0.254	0.013411
SNORA5A	IKZF4	−0.253	0.013759
SNORA5A	ULK1	−0.253	0.013759
SNORA5A	RNF44	−0.253	0.013759
SNORA5A	FBRS	−0.252	0.014115
SNORA5A	CIR1	−0.251	0.014479
SNORA5A	COPS7B	−0.251	0.014479
SNORA5A	C19orf54	−0.249	0.015233
SNORA5A	SETD1A	−0.245	0.016843
SNORA5A	ZNF444	−0.243	0.017703
SNORA5A	USB1	−0.241	0.018602
SNORA5A	SYVN1	−0.241	0.018602
SNORA5A	BET1L	−0.241	0.018602
SNORA5A	SLC35A4	−0.24	0.019065
SNORA5A	MNT	−0.24	0.019065
SNORA5A	CNOT3	−0.239	0.019539
SNORA5A	PLBD2	−0.238	0.020024
SNORA5A	CNKSR1	−0.237	0.020518
SNORA5A	TAF15	−0.237	0.020518
SNORA5A	SRRM1	−0.236	0.021024
SNORA5A	HNRNPA1	−0.236	0.021024
SNORA5A	CRTC2	−0.236	0.021024

SNORA5A	PRR14	-0.235	0.02154
SNORA5A	NPRL3	-0.235	0.02154
SNORA5A	DEXI	-0.234	0.022067
SNORA5A	TSPAN14	-0.233	0.022605
SNORA5A	MED25	-0.233	0.022605
SNORA5A	BRD4	-0.232	0.023155
SNORA5A	NAA60	-0.232	0.023155
SNORA5A	SUFU	-0.232	0.023155
SNORA5A	CAPZB	-0.231	0.023716
SNORA5A	ATXN2L	-0.23	0.024289
SNORA5A	PHF21A	-0.229	0.024874
SNORA5A	PPRC1	-0.229	0.024874
SNORA5A	HNRNPUL2	-0.227	0.026081
SNORA5A	ZRSR2	-0.226	0.026703
SNORA5A	GSK3A	-0.225	0.027338
SNORA5A	CCDC97	-0.225	0.027338
SNORA5A	R3HDM2	-0.225	0.027338
SNORA5A	BICRA	-0.225	0.027338
SNORA5A	RAB11B	-0.224	0.027986
SNORA5A	TP53I11	-0.223	0.028647
SNORA5A	PHACTR4	-0.223	0.028647
SNORA5A	UBALD1	-0.222	0.029321
SNORA5A	PNPLA2	-0.222	0.029321
SNORA5A	TMEM39B	-0.222	0.029321
SNORA5A	CAMTA2	-0.222	0.029321
SNORA5A	CPSF7	-0.221	0.030009
SNORA5A	TEX261	-0.221	0.030009
SNORA5A	YPEL3	-0.219	0.031427
SNORA5A	LZTS2	-0.219	0.031427
SNORA5A	ZNF213	-0.218	0.032157
SNORA5A	PRR13	-0.217	0.032902
SNORA5A	UBQLN2	-0.217	0.032902
SNORA5A	SYF2	-0.217	0.032902
SNORA5A	RNPEPL1	-0.217	0.032902
SNORA5A	RAB7A	-0.217	0.032902
SNORA5A	KIAA1522	-0.217	0.032902
SNORA5A	PABPN1	-0.217	0.032902
SNORA5A	FIZ1	-0.217	0.032902
SNORA5A	GATD1	-0.216	0.033661
SNORA5A	TMEM214	-0.216	0.033661
SNORA5A	INAFM1	-0.216	0.033661
SNORA5A	SIDT2	-0.216	0.033661
SNORA5A	MT-ND1	-0.215	0.034436
SNORA5A	FBRSL1	-0.215	0.034436

SNORA5A	JUND	-0.215	0.034436
SNORA5A	PHF1	-0.215	0.034436
SNORA5A	WDTC1	-0.215	0.034436
SNORA5A	BLOC1S3	-0.214	0.035225
SNORA5A	DNAJB2	-0.214	0.035225
SNORA5A	SNRPA	-0.213	0.03603
SNORA5A	VEGFB	-0.213	0.03603
SNORA5A	KDM6B	-0.213	0.03603
SNORA5A	FAM222B	-0.213	0.03603
SNORA5A	FUS	-0.213	0.03603
SNORA5A	PCBP2	-0.212	0.036851
SNORA5A	MOB2	-0.212	0.036851
SNORA5A	ARHGAP17	-0.212	0.036851
SNORA5A	PTOV1	-0.212	0.036851
SNORA5A	SRCAP	-0.212	0.036851
SNORA5A	MBD6	-0.212	0.036851
SNORA5A	TATDN2	-0.212	0.036851
SNORA5A	CCDC92	-0.211	0.037687
SNORA5A	SMG9	-0.211	0.037687
SNORA5A	CIC	-0.211	0.037687
SNORA5A	SRRM2	-0.211	0.037687
SNORA5A	ARID1A	-0.21	0.038539
SNORA5A	PACS1	-0.21	0.038539
SNORA5A	ANP32B	-0.21	0.038539
SNORA5A	OAZ2	-0.21	0.038539
SNORA5A	ZNF580	-0.209	0.039408
SNORA5A	DYRK1B	-0.209	0.039408
SNORA5A	MMP24-AS1	-0.208	0.040294
SNORA5A	PITPNA	-0.208	0.040294
SNORA5A	TMEM175	-0.208	0.040294
SNORA5A	MEF2D	-0.208	0.040294
SNORA5A	MT-ND4	-0.207	0.041196
SNORA5A	HPS1	-0.206	0.042115
SNORA5A	FAM160A2	-0.206	0.042115
SNORA5A	NOL4L	-0.206	0.042115
SNORA5A	RAB4B	-0.206	0.042115
SNORA5A	DAZAP2	-0.205	0.043052
SNORA5A	CIZ1	-0.205	0.043052
SNORA5A	DVL3	-0.205	0.043052
SNORA5A	ATP6V0C	-0.205	0.043052
SNORA5A	ZMIZ1	-0.205	0.043052
SNORA5A	HECTD3	-0.205	0.043052
SNORA5A	WBP2	-0.204	0.044006
SNORA5A	SSBP3	-0.204	0.044006

SNORA5A	NCOA6	-0.203	0.044978
SNORA5A	RBPMS	-0.203	0.044978
SNORA5A	PRKD2	-0.203	0.044978
SNORA5A	HNRNPD	-0.202	0.045968
SNORA5A	TNK2	-0.201	0.046976
SNORA5A	CRTC3	-0.201	0.046976
SNORA5A	HNRNPUL1	-0.2	0.048003
SNORA5A	SORBS3	-0.2	0.048003
SNORA5A	ZER1	-0.2	0.048003
SNORA5A	INO80D	0.23	0.049197
SNORA5A	INVS	0.23	0.049197
SNORA5A	ZNF624	0.23	0.049197
SNORA5A	CYP51A1	0.23	0.049197
SNORA5A	KIF2A	0.23	0.049197
SNORA5A	ME2	0.23	0.049197
SNORA5A	MOB1A	0.23	0.049197
SNORA5A	SAMD11	0.23	0.049197
SNORA5A	CSNK1A1	0.23	0.049197
SNORA5A	ZDHHC4	0.23	0.049197
SNORA5A	ARAP2	0.231	0.048149
SNORA5A	PRR14L	0.231	0.048149
SNORA5A	MALSU1	0.231	0.048149
SNORA5A	PARP14	0.231	0.048149
SNORA5A	LHFPL2	0.231	0.048149
SNORA5A	TBL1XR1	0.231	0.048149
SNORA5A	CA5B	0.231	0.048149
SNORA5A	STYX	0.232	0.04712
SNORA5A	WAPL	0.232	0.04712
SNORA5A	INPP4B	0.232	0.04712
SNORA5A	FKBP14	0.232	0.04712
SNORA5A	ERCC8	0.232	0.04712
SNORA5A	ZNF658	0.232	0.04712
SNORA5A	GUCY1A3	0.232	0.04712
SNORA5A	ZNF443	0.232	0.04712
SNORA5A	EIF4E	0.232	0.04712
SNORA5A	AC135178.2	0.233	0.046109
SNORA5A	GFM2	0.233	0.046109
SNORA5A	AC010422.3	0.233	0.046109
SNORA5A	RTTN	0.233	0.046109
SNORA5A	FRK	0.233	0.046109
SNORA5A	DDX52	0.233	0.046109
SNORA5A	CC2D2B	0.233	0.046109
SNORA5A	C11orf65	0.233	0.046109
SNORA5A	FIGNL1	0.234	0.045116

SNORA5A	HSPA8	0.234	0.045116
SNORA5A	SYCP3	0.234	0.045116
SNORA5A	UTP15	0.234	0.045116
SNORA5A	ATP6V1A	0.234	0.045116
SNORA5A	CEP128	0.234	0.045116
SNORA5A	ITGAV	0.234	0.045116
SNORA5A	PLXNC1	0.235	0.044142
SNORA5A	PTPRC	0.235	0.044142
SNORA5A	GPATCH11	0.235	0.044142
SNORA5A	XKR9	0.235	0.044142
SNORA5A	ZNF14	0.235	0.044142
SNORA5A	ABCE1	0.235	0.044142
SNORA5A	PTPRG	0.235	0.044142
SNORA5A	MTR	0.235	0.044142
SNORA5A	ZZZ3	0.236	0.043185
SNORA5A	XRN2	0.236	0.043185
SNORA5A	CCZ1B	0.236	0.043185
SNORA5A	LACTB2	0.237	0.042246
SNORA5A	ZNF253	0.237	0.042246
SNORA5A	LIN9	0.237	0.042246
SNORA5A	SLC30A6	0.237	0.042246
SNORA5A	CEP97	0.237	0.042246
SNORA5A	VPS8	0.237	0.042246
SNORA5A	SCYL2	0.237	0.042246
SNORA5A	C1GALT1	0.237	0.042246
SNORA5A	KCNV2	0.238	0.041325
SNORA5A	CCDC88A	0.238	0.041325
SNORA5A	EEA1	0.238	0.041325
SNORA5A	FAM126B	0.238	0.041325
SNORA5A	ING3	0.238	0.041325
SNORA5A	HNRNPLL	0.238	0.041325
SNORA5A	ACTR8	0.239	0.04042
SNORA5A	CHM	0.239	0.04042
SNORA5A	IRAK4	0.239	0.04042
SNORA5A	SLC35B4	0.239	0.04042
SNORA5A	NUP205	0.239	0.04042
SNORA5A	KLRC3	0.239	0.04042
SNORA5A	TTC21B	0.239	0.04042
SNORA5A	TIFA	0.239	0.04042
SNORA5A	STK17B	0.24	0.039532
SNORA5A	ZNF611	0.24	0.039532
SNORA5A	UBE3A	0.24	0.039532
SNORA5A	PTPN22	0.24	0.039532
SNORA5A	GLIPR1L1	0.241	0.038661

SNORA5A	TBC1D12	0.241	0.038661
SNORA5A	ZNF714	0.241	0.038661
SNORA5A	PLEKHF2	0.241	0.038661
SNORA5A	ANKRD26	0.241	0.038661
SNORA5A	GPR65	0.241	0.038661
SNORA5A	DICER1	0.241	0.038661
SNORA5A	ZNF28	0.241	0.038661
SNORA5A	CD226	0.241	0.038661
SNORA5A	PAPOLG	0.241	0.038661
SNORA5A	DOCK11	0.242	0.037806
SNORA5A	STAM2	0.242	0.037806
SNORA5A	SCAF11	0.243	0.036968
SNORA5A	USP50	0.243	0.036968
SNORA5A	TMEM184C	0.243	0.036968
SNORA5A	PACRGL	0.243	0.036968
SNORA5A	TRAF6	0.243	0.036968
SNORA5A	NOC3L	0.243	0.036968
SNORA5A	TMTC3	0.243	0.036968
SNORA5A	SLCO5A1	0.243	0.036968
SNORA5A	LRRC40	0.243	0.036968
SNORA5A	ASH1L	0.243	0.036968
SNORA5A	GTF2H2C	0.243	0.036968
SNORA5A	MTBP	0.243	0.036968
SNORA5A	TET2	0.244	0.036145
SNORA5A	MEF2C	0.244	0.036145
SNORA5A	ULK4	0.244	0.036145
SNORA5A	SLC39A9	0.244	0.036145
SNORA5A	UHMK1	0.244	0.036145
SNORA5A	SIKE1	0.244	0.036145
SNORA5A	DST	0.245	0.035338
SNORA5A	APOL6	0.245	0.035338
SNORA5A	ZNF551	0.245	0.035338
SNORA5A	AGO3	0.245	0.035338
SNORA5A	NSL1	0.245	0.035338
SNORA5A	KLRC4	0.245	0.035338
SNORA5A	NUP54	0.245	0.035338
SNORA5A	CREB1	0.245	0.035338
SNORA5A	C5orf42	0.245	0.035338
SNORA5A	ZSCAN20	0.245	0.035338
SNORA5A	CAMSAP2	0.246	0.034546
SNORA5A	SPATA5	0.246	0.034546
SNORA5A	PXT1	0.246	0.034546
SNORA5A	YTHDF3	0.246	0.034546
SNORA5A	ANKRD12	0.246	0.034546

SNORA5A	ZFP1	0.246	0.034546
SNORA5A	RNF213	0.246	0.034546
SNORA5A	ZNF792	0.246	0.034546
SNORA5A	TRPS1	0.247	0.03377
SNORA5A	CPSF2	0.247	0.03377
SNORA5A	ADAT1	0.247	0.03377
SNORA5A	ZGRF1	0.248	0.033008
SNORA5A	AGTPBP1	0.248	0.033008
SNORA5A	AQR	0.248	0.033008
SNORA5A	C8orf37	0.248	0.033008
SNORA5A	PHC3	0.248	0.033008
SNORA5A	CCDC18	0.249	0.032261
SNORA5A	BTAF1	0.249	0.032261
SNORA5A	ZNF749	0.249	0.032261
SNORA5A	ERCC4	0.249	0.032261
SNORA5A	ATP11C	0.249	0.032261
SNORA5A	ZC3H12C	0.249	0.032261
SNORA5A	MAP4K3	0.249	0.032261
SNORA5A	MTHFD2L	0.249	0.032261
SNORA5A	CNOT6L	0.249	0.032261
SNORA5A	UBE2W	0.249	0.032261
SNORA5A	NAA35	0.25	0.031529
SNORA5A	CLDN12	0.25	0.031529
SNORA5A	STAG2	0.25	0.031529
SNORA5A	YAE1D1	0.25	0.031529
SNORA5A	UGGT2	0.25	0.031529
SNORA5A	CRLF3	0.25	0.031529
SNORA5A	ARL5A	0.25	0.031529
SNORA5A	GNA13	0.25	0.031529
SNORA5A	UBR3	0.25	0.031529
SNORA5A	JMJD1C	0.25	0.031529
SNORA5A	SLC25A32	0.251	0.030811
SNORA5A	PRKDC	0.251	0.030811
SNORA5A	ZNF780B	0.251	0.030811
SNORA5A	APC	0.251	0.030811
SNORA5A	GALK2	0.251	0.030811
SNORA5A	ANAPC1	0.252	0.030107
SNORA5A	USP15	0.252	0.030107
SNORA5A	DEPDC7	0.252	0.030107
SNORA5A	AASDH	0.252	0.030107
SNORA5A	CLLU1	0.253	0.029417
SNORA5A	ANKIB1	0.253	0.029417
SNORA5A	SLC30A1	0.253	0.029417
SNORA5A	NUDCD1	0.253	0.029417

SNORA5A	PDZD9	0.253	0.029417
SNORA5A	DDX6	0.253	0.029417
SNORA5A	SLF2	0.254	0.028741
SNORA5A	KMT2C	0.254	0.028741
SNORA5A	PTPRJ	0.254	0.028741
SNORA5A	IPP	0.254	0.028741
SNORA5A	SGTB	0.255	0.028078
SNORA5A	METTL2A	0.255	0.028078
SNORA5A	RANBP2	0.255	0.028078
SNORA5A	MPHOSPH9	0.255	0.028078
SNORA5A	ANKRD46	0.256	0.027428
SNORA5A	ZNF417	0.256	0.027428
SNORA5A	PLEKHA8	0.256	0.027428
SNORA5A	LARP4	0.256	0.027428
SNORA5A	THAP5	0.257	0.026792
SNORA5A	STXBP5	0.257	0.026792
SNORA5A	SMAD5	0.257	0.026792
SNORA5A	ABCA6	0.257	0.026792
SNORA5A	STXBP4	0.257	0.026792
SNORA5A	ZFP37	0.257	0.026792
SNORA5A	ZBTB1	0.257	0.026792
SNORA5A	MTERF1	0.258	0.026168
SNORA5A	CENPL	0.258	0.026168
SNORA5A	AC012309.1	0.258	0.026168
SNORA5A	AGL	0.259	0.025557
SNORA5A	FBXL13	0.259	0.025557
SNORA5A	C1orf74	0.259	0.025557
SNORA5A	DNAJC13	0.26	0.024958
SNORA5A	LYPLA1	0.26	0.024958
SNORA5A	AC093155.3	0.26	0.024958
SNORA5A	ITPR2	0.26	0.024958
SNORA5A	PPP2R3A	0.26	0.024958
SNORA5A	LCOR	0.261	0.024371
SNORA5A	DNAH11	0.261	0.024371
SNORA5A	CEPT1	0.261	0.024371
SNORA5A	ZNF35	0.262	0.023796
SNORA5A	COPB1	0.262	0.023796
SNORA5A	FBXL5	0.262	0.023796
SNORA5A	STX17	0.262	0.023796
SNORA5A	HUS1	0.262	0.023796
SNORA5A	PFKFB2	0.262	0.023796
SNORA5A	CTNNA2	0.262	0.023796
SNORA5A	ZNF484	0.263	0.023233
SNORA5A	MANEA	0.263	0.023233

SNORA5A	MLH3	0.263	0.023233
SNORA5A	TBC1D8B	0.263	0.023233
SNORA5A	ZNF136	0.263	0.023233
SNORA5A	ARHGAP5	0.263	0.023233
SNORA5A	DYNAP	0.263	0.023233
SNORA5A	ZNF701	0.263	0.023233
SNORA5A	DLEU1	0.264	0.022682
SNORA5A	UTP23	0.264	0.022682
SNORA5A	ZDHHC21	0.264	0.022682
SNORA5A	ABHD18	0.264	0.022682
SNORA5A	PHACTR2	0.265	0.022142
SNORA5A	IL21	0.265	0.022142
SNORA5A	KLHL28	0.265	0.022142
SNORA5A	ZNF138	0.265	0.022142
SNORA5A	STARD3NL	0.265	0.022142
SNORA5A	ZNF525	0.265	0.022142
SNORA5A	MPP6	0.265	0.022142
SNORA5A	APPBP2	0.265	0.022142
SNORA5A	PIKFYVE	0.266	0.021613
SNORA5A	ATXN1	0.266	0.021613
SNORA5A	SPTY2D1	0.266	0.021613
SNORA5A	ZNF708	0.266	0.021613
SNORA5A	HELZ	0.266	0.021613
SNORA5A	TMEM154	0.266	0.021613
SNORA5A	ANKRD50	0.266	0.021613
SNORA5A	RAB27B	0.267	0.021096
SNORA5A	BST1	0.267	0.021096
SNORA5A	TBC1D23	0.267	0.021096
SNORA5A	NCOA2	0.267	0.021096
SNORA5A	AP002495.2	0.267	0.021096
SNORA5A	N4BP2	0.267	0.021096
SNORA5A	XPO4	0.267	0.021096
SNORA5A	ANKRD31	0.268	0.020589
SNORA5A	PDS5B	0.268	0.020589
SNORA5A	KLRC4-KLRK1	0.268	0.020589
SNORA5A	ZNF564	0.268	0.020589
SNORA5A	ST7L	0.268	0.020589
SNORA5A	DOPEY1	0.268	0.020589
SNORA5A	KCNS2	0.268	0.020589
SNORA5A	ARHGAP12	0.269	0.020093
SNORA5A	ARHGAP18	0.269	0.020093
SNORA5A	ICE2	0.27	0.019607
SNORA5A	ZNF765	0.27	0.019607
SNORA5A	IPO11	0.27	0.019607

SNORA5A	ATP7A	0.271	0.019132
SNORA5A	KRIT1	0.271	0.019132
SNORA5A	RAB19	0.271	0.019132
SNORA5A	AC006978.2	0.272	0.018666
SNORA5A	SLC25A2	0.272	0.018666
SNORA5A	BACH1	0.272	0.018666
SNORA5A	SPG11	0.272	0.018666
SNORA5A	ZNF791	0.272	0.018666
SNORA5A	ZNF736	0.272	0.018666
SNORA5A	CCNT1	0.272	0.018666
SNORA5A	DENND4A	0.272	0.018666
SNORA5A	TRAPPC8	0.273	0.018211
SNORA5A	FAN1	0.273	0.018211
SNORA5A	SFT2D2	0.273	0.018211
SNORA5A	KBTBD8	0.274	0.017765
SNORA5A	WDR7	0.274	0.017765
SNORA5A	TACR3	0.274	0.017765
SNORA5A	LPGAT1	0.275	0.017329
SNORA5A	MDN1	0.275	0.017329
SNORA5A	CD80	0.275	0.017329
SNORA5A	CASP8AP2	0.275	0.017329
SNORA5A	HIST1H1T	0.275	0.017329
SNORA5A	PPP1R15B	0.275	0.017329
SNORA5A	AC022335.1	0.276	0.016903
SNORA5A	RSBN1	0.276	0.016903
SNORA5A	MFSD4B	0.276	0.016903
SNORA5A	LPP	0.276	0.016903
SNORA5A	7-Mar	0.276	0.016903
SNORA5A	KLHL15	0.276	0.016903
SNORA5A	SOWAHB	0.276	0.016903
SNORA5A	TAF1B	0.277	0.016485
SNORA5A	GCC2	0.277	0.016485
SNORA5A	SUCO	0.277	0.016485
SNORA5A	POC1B-GALNT4	0.277	0.016485
SNORA5A	DOCK4	0.278	0.016077
SNORA5A	ZNF627	0.278	0.016077
SNORA5A	TAX1BP1	0.278	0.016077
SNORA5A	REL	0.278	0.016077
SNORA5A	MON2	0.279	0.015678
SNORA5A	IARS	0.279	0.015678
SNORA5A	THAP9	0.279	0.015678
SNORA5A	SPATA1	0.279	0.015678
SNORA5A	RNF133	0.279	0.015678
SNORA5A	TULP4	0.28	0.015287

SNORA5A	TTBK2	0.281	0.014905
SNORA5A	ATAD2B	0.281	0.014905
SNORA5A	CMTR2	0.281	0.014905
SNORA5A	CYP7B1	0.281	0.014905
SNORA5A	ZCCHC6	0.281	0.014905
SNORA5A	PDCL2	0.281	0.014905
SNORA5A	TRAPPC13	0.281	0.014905
SNORA5A	SMCHD1	0.281	0.014905
SNORA5A	TRAPPC11	0.281	0.014905
SNORA5A	SP3	0.282	0.014531
SNORA5A	MFSD8	0.282	0.014531
SNORA5A	ZMYM1	0.282	0.014531
SNORA5A	UEVLD	0.282	0.014531
SNORA5A	OXNAD1	0.282	0.014531
SNORA5A	PPP1R9A	0.283	0.014166
SNORA5A	ZFX	0.283	0.014166
SNORA5A	EXOC5	0.283	0.014166
SNORA5A	ABCA1	0.283	0.014166
SNORA5A	TTC37	0.283	0.014166
SNORA5A	CCDC134	0.284	0.013809
SNORA5A	TBC1D32	0.284	0.013809
SNORA5A	MPP5	0.284	0.013809
SNORA5A	KHDRBS2	0.284	0.013809
SNORA5A	7-Sep	0.285	0.01346
SNORA5A	BARD1	0.285	0.01346
SNORA5A	MIB1	0.285	0.01346
SNORA5A	KIAA1429	0.285	0.01346
SNORA5A	RP1	0.286	0.013118
SNORA5A	MSH3	0.286	0.013118
SNORA5A	KDM7A	0.286	0.013118
SNORA5A	ZNF823	0.287	0.012784
SNORA5A	REV3L	0.287	0.012784
SNORA5A	CASTOR2	0.287	0.012784
SNORA5A	CCDC36	0.287	0.012784
SNORA5A	TAOK1	0.287	0.012784
SNORA5A	TOR1AIP2	0.287	0.012784
SNORA5A	RB1CC1	0.287	0.012784
SNORA5A	RPA4	0.289	0.01214
SNORA5A	TLR4	0.289	0.01214
SNORA5A	GMFB	0.289	0.01214
SNORA5A	TMPPE	0.289	0.01214
SNORA5A	ZNRF2	0.289	0.01214
SNORA5A	INTS6	0.289	0.01214
SNORA5A	FAM151B	0.289	0.01214

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SNORA5A	G3BP2	0.29	0.011828
SNORA5A	ANKRD7	0.29	0.011828
SNORA5A	GPR34	0.29	0.011828
SNORA5A	DOCK10	0.291	0.011524
SNORA5A	SLC35F5	0.291	0.011524
SNORA5A	ZBTB37	0.291	0.011524
SNORA5A	MTMR8	0.292	0.011226
SNORA5A	RPAP2	0.292	0.011226
SNORA5A	SLCO1B7	0.293	0.010936
SNORA5A	FAM208B	0.293	0.010936
SNORA5A	USP24	0.293	0.010936
SNORA5A	MED13	0.293	0.010936
SNORA5A	LIN54	0.293	0.010936
SNORA5A	SYDE2	0.293	0.010936
SNORA5A	ZNF625	0.294	0.010652
SNORA5A	CCDC117	0.294	0.010652
SNORA5A	B3GALNT2	0.295	0.010374
SNORA5A	FAM196B	0.295	0.010374
SNORA5A	QSER1	0.295	0.010374
SNORA5A	UBE4A	0.296	0.010103
SNORA5A	ZNF121	0.296	0.010103
SNORA5A	RNF169	0.296	0.010103
SNORA5A	KRBA2	0.296	0.010103
SNORA5A	ANKMY2	0.297	0.009839
SNORA5A	FAM126A	0.297	0.009839
SNORA5A	C16orf72	0.297	0.009839
SNORA5A	ITGA4	0.297	0.009839
SNORA5A	ZNF770	0.298	0.00958
SNORA5A	HELQ	0.298	0.00958
SNORA5A	NPAT	0.298	0.00958
SNORA5A	HIST1H2BD	0.298	0.00958
SNORA5A	FAM135A	0.299	0.009328
SNORA5A	RAB3GAP2	0.299	0.009328
SNORA5A	FBXO28	0.299	0.009328
SNORA5A	CUL5	0.3	0.009082
SNORA5A	UBR2	0.3	0.009082
SNORA5A	ZNF92	0.301	0.008841
SNORA5A	ZNF510	0.301	0.008841
SNORA5A	TTC39B	0.301	0.008841
SNORA5A	ERBIN	0.301	0.008841
SNORA5A	TANGO6	0.301	0.008841
SNORA5A	ZNF717	0.302	0.008606
SNORA5A	TFEC	0.302	0.008606

SNORA5A	TLR1	0.302	0.008606
SNORA5A	DDX60	0.303	0.008377
SNORA5A	GPR82	0.303	0.008377
SNORA5A	INTS2	0.304	0.008153
SNORA5A	PRMT3	0.304	0.008153
SNORA5A	ZNF555	0.304	0.008153
SNORA5A	CEP295NL	0.304	0.008153
SNORA5A	NUPL2	0.304	0.008153
SNORA5A	PARP8	0.304	0.008153
SNORA5A	MIER1	0.304	0.008153
SNORA5A	FAM19A2	0.305	0.007935
SNORA5A	ZNF727	0.305	0.007935
SNORA5A	AP003108.2	0.305	0.007935
SNORA5A	VPS41	0.306	0.007722
SNORA5A	ARFGEF2	0.307	0.007514
SNORA5A	RASA2	0.309	0.007113
SNORA5A	UBR5	0.31	0.00692
SNORA5A	ZNF518A	0.31	0.00692
SNORA5A	ATRX	0.31	0.00692
SNORA5A	KIAA1109	0.311	0.006731
SNORA5A	CEP295	0.311	0.006731
SNORA5A	SPRED1	0.311	0.006731
SNORA5A	NBAS	0.311	0.006731
SNORA5A	TRIP11	0.311	0.006731
SNORA5A	MAN1A2	0.312	0.006547
SNORA5A	FBXL4	0.312	0.006547
SNORA5A	USP38	0.312	0.006547
SNORA5A	EPS15	0.312	0.006547
SNORA5A	RAPGEF5	0.312	0.006547
SNORA5A	SMG8	0.313	0.006368
SNORA5A	ITCH	0.313	0.006368
SNORA5A	KPNA5	0.314	0.006193
SNORA5A	CTDSPL2	0.314	0.006193
SNORA5A	UBR1	0.314	0.006193
SNORA5A	USP33	0.314	0.006193
SNORA5A	EDEM3	0.315	0.006023
SNORA5A	RIC1	0.315	0.006023
SNORA5A	PMS2	0.315	0.006023
SNORA5A	GAPVD1	0.315	0.006023
SNORA5A	TNPO1	0.316	0.005856
SNORA5A	UBA6	0.316	0.005856
SNORA5A	PAPOLB	0.316	0.005856
SNORA5A	MACF1	0.317	0.005694
SNORA5A	SLC9C1	0.317	0.005694

SNORA5A	CFAP54	0.317	0.005694
SNORA5A	GPR88	0.318	0.005536
SNORA5A	FANCM	0.318	0.005536
SNORA5A	DGAT2L6	0.318	0.005536
SNORA5A	FBXW7	0.318	0.005536
SNORA5A	SLC25A46	0.319	0.005382
SNORA5A	CENPC	0.319	0.005382
SNORA5A	VCPIP1	0.319	0.005382
SNORA5A	WDR36	0.319	0.005382
SNORA5A	HIST1H3H	0.319	0.005382
SNORA5A	ZNF852	0.32	0.005232
SNORA5A	ZBTB38	0.32	0.005232
SNORA5A	CSNK1G3	0.32	0.005232
SNORA5A	DYNC2H1	0.32	0.005232
SNORA5A	CLDN20	0.321	0.005085
SNORA5A	ZNF669	0.321	0.005085
SNORA5A	ZNF680	0.322	0.004942
SNORA5A	ZNF644	0.322	0.004942
SNORA5A	JAK2	0.322	0.004942
SNORA5A	MTMR6	0.323	0.004803
SNORA5A	CHD1	0.323	0.004803
SNORA5A	BLID	0.323	0.004803
SNORA5A	MATR3	0.324	0.004668
SNORA5A	HSPA4L	0.324	0.004668
SNORA5A	CCDC83	0.324	0.004668
SNORA5A	PIK3CG	0.324	0.004668
SNORA5A	PRDM5	0.325	0.004536
SNORA5A	SWT1	0.325	0.004536
SNORA5A	ELF2	0.325	0.004536
SNORA5A	CPSF4L	0.325	0.004536
SNORA5A	TMEM106B	0.326	0.004407
SNORA5A	C3orf38	0.326	0.004407
SNORA5A	ZNF678	0.326	0.004407
SNORA5A	PARD6B	0.326	0.004407
SNORA5A	SULT1C3	0.327	0.004282
SNORA5A	HIST1H2BA	0.328	0.00416
SNORA5A	ZNF800	0.328	0.00416
SNORA5A	VPS13A	0.329	0.004041
SNORA5A	RIMS1	0.329	0.004041
SNORA5A	CA1	0.33	0.003925
SNORA5A	HDAC9	0.33	0.003925
SNORA5A	CDK13	0.33	0.003925
SNORA5A	ZNF106	0.33	0.003925
SNORA5A	TOGARAM1	0.33	0.003925

SNORA5A	PKD2L2	0.33	0.003925
SNORA5A	GPATCH2	0.33	0.003925
SNORA5A	MYO9A	0.331	0.003812
SNORA5A	RBM12B	0.331	0.003812
SNORA5A	MAN2A1	0.332	0.003702
SNORA5A	NBN	0.333	0.003595
SNORA5A	DGKE	0.334	0.003491
SNORA5A	USP45	0.334	0.003491
SNORA5A	CYP4A11	0.334	0.003491
SNORA5A	CFAP97	0.334	0.003491
SNORA5A	MLANA	0.335	0.00339
SNORA5A	HIST1H1C	0.335	0.00339
SNORA5A	PRKD3	0.335	0.00339
SNORA5A	AHR	0.335	0.00339
SNORA5A	VPS50	0.336	0.003291
SNORA5A	PTPN4	0.337	0.003195
SNORA5A	SLFN12L	0.337	0.003195
SNORA5A	BAZ2B	0.339	0.00301
SNORA5A	WASHC4	0.339	0.00301
SNORA5A	TMF1	0.339	0.00301
SNORA5A	FNIP1	0.34	0.002922
SNORA5A	STAG1	0.34	0.002922
SNORA5A	KBTBD2	0.34	0.002922
SNORA5A	NEK7	0.34	0.002922
SNORA5A	DCP2	0.341	0.002835
SNORA5A	ZNF283	0.341	0.002835
SNORA5A	ZNF407	0.341	0.002835
SNORA5A	RANBP6	0.341	0.002835
SNORA5A	CEP85L	0.342	0.002752
SNORA5A	RELL1	0.342	0.002752
SNORA5A	PIK3C2A	0.343	0.00267
SNORA5A	GSTCD	0.343	0.00267
SNORA5A	SYNE1	0.343	0.00267
SNORA5A	AVL9	0.343	0.00267
SNORA5A	SLC10A1	0.345	0.002513
SNORA5A	SHQ1	0.345	0.002513
SNORA5A	DPY19L4	0.345	0.002513
SNORA5A	ALG11	0.346	0.002438
SNORA5A	MAB21L1	0.347	0.002365
SNORA5A	TRPM7	0.347	0.002365
SNORA5A	ZNF543	0.347	0.002365
SNORA5A	ZNF562	0.347	0.002365
SNORA5A	EBLN2	0.348	0.002294
SNORA5A	ZNF426	0.349	0.002225

SNORA5A	ATP6V0A2	0.349	0.002225
SNORA5A	HCFC2	0.349	0.002225
SNORA5A	IKZF2	0.349	0.002225
SNORA5A	ATL3	0.349	0.002225
SNORA5A	KLHL7	0.35	0.002158
SNORA5A	ZFYVE16	0.35	0.002158
SNORA5A	USP37	0.35	0.002158
SNORA5A	DENND4C	0.351	0.002093
SNORA5A	EXPH5	0.351	0.002093
SNORA5A	MACC1	0.352	0.002029
SNORA5A	HEATR1	0.352	0.002029
SNORA5A	RLIM	0.352	0.002029
SNORA5A	TIGD4	0.353	0.001967
SNORA5A	ZNF148	0.353	0.001967
SNORA5A	MAP3K1	0.354	0.001907
SNORA5A	ZNF292	0.354	0.001907
SNORA5A	PUS7L	0.354	0.001907
SNORA5A	AC134669.2	0.354	0.001907
SNORA5A	PPP4R2	0.354	0.001907
SNORA5A	FER	0.355	0.001849
SNORA5A	BRCA2	0.356	0.001792
SNORA5A	PCNX1	0.356	0.001792
SNORA5A	ZBTB6	0.356	0.001792
SNORA5A	CCDC126	0.356	0.001792
SNORA5A	GTPBP10	0.356	0.001792
SNORA5A	GPATCH2L	0.357	0.001737
SNORA5A	SMIM18	0.358	0.001684
SNORA5A	ISPD	0.358	0.001684
SNORA5A	PATE4	0.358	0.001684
SNORA5A	FAT4	0.358	0.001684
SNORA5A	HOMER1	0.359	0.001632
SNORA5A	SLC5A3	0.36	0.001581
SNORA5A	CLASP2	0.36	0.001581
SNORA5A	ZNF441	0.361	0.001532
SNORA5A	NOTCH2NL	0.362	0.001485
SNORA5A	AL161911.1	0.362	0.001485
SNORA5A	TWISTNB	0.363	0.001438
SNORA5A	REST	0.363	0.001438
SNORA5A	LRBA	0.364	0.001393
SNORA5A	ZNF91	0.365	0.00135
SNORA5A	TNRC6B	0.365	0.00135
SNORA5A	SOCS4	0.366	0.001307
SNORA5A	SPINT4	0.366	0.001307
SNORA5A	FAM160A1	0.366	0.001307

SNORA5A	ZNF221	0.366	0.001307
SNORA5A	POLK	0.367	0.001266
SNORA5A	USP34	0.367	0.001266
SNORA5A	DMXL2	0.37	0.00115
SNORA5A	UHRF1BP1L	0.371	0.001113
SNORA5A	C6orf10	0.371	0.001113
SNORA5A	PURB	0.372	0.001078
SNORA5A	VMA21	0.372	0.001078
SNORA5A	RLF	0.372	0.001078
SNORA5A	FNDC9	0.372	0.001078
SNORA5A	ZNF12	0.373	0.001043
SNORA5A	OXR1	0.374	0.00101
SNORA5A	SLC30A7	0.374	0.00101
SNORA5A	ZNF141	0.375	0.000978
SNORA5A	DGKH	0.375	0.000978
SNORA5A	LIN7C	0.376	0.000946
SNORA5A	IMPG2	0.376	0.000946
SNORA5A	EVI5	0.378	0.000886
SNORA5A	HIST2H3C	0.378	0.000886
SNORA5A	SETX	0.378	0.000886
SNORA5A	HERC1	0.379	0.000857
SNORA5A	PPIP5K2	0.379	0.000857
SNORA5A	RC3H1	0.379	0.000857
SNORA5A	RIF1	0.379	0.000857
SNORA5A	ZNF808	0.38	0.000829
SNORA5A	PLEKHM3	0.38	0.000829
SNORA5A	SMARCAD1	0.381	0.000802
SNORA5A	MYCBP2	0.381	0.000802
SNORA5A	ZC3H6	0.381	0.000802
SNORA5A	MFAP3	0.381	0.000802
SNORA5A	BBS9	0.381	0.000802
SNORA5A	ASCC3	0.382	0.000776
SNORA5A	C12orf40	0.382	0.000776
SNORA5A	SCLT1	0.382	0.000776
SNORA5A	SLC30A4	0.382	0.000776
SNORA5A	MGA	0.384	0.000726
SNORA5A	METTL25	0.385	0.000702
SNORA5A	ATR	0.386	0.000679
SNORA5A	SLC4A7	0.387	0.000657
SNORA5A	PTAR1	0.387	0.000657
SNORA5A	FOXN2	0.387	0.000657
SNORA5A	CEP192	0.388	0.000635
SNORA5A	MAP3K2	0.388	0.000635
SNORA5A	WDFY3	0.389	0.000614

SNORA5A	SCRG1	0.389	0.000614
SNORA5A	ZNF267	0.39	0.000594
SNORA5A	ZYG11B	0.39	0.000594
SNORA5A	ZNF845	0.391	0.000574
SNORA5A	KIF27	0.392	0.000555
SNORA5A	C3orf49	0.392	0.000555
SNORA5A	FAM208A	0.393	0.000536
SNORA5A	SRFBP1	0.394	0.000518
SNORA5A	AKAP9	0.396	0.000484
SNORA5A	GNL3L	0.397	0.000468
SNORA5A	ZNF81	0.397	0.000468
SNORA5A	SLC8A1	0.399	0.000436
SNORA5A	BDP1	0.399	0.000436
SNORA5A	CHD9	0.401	0.000407
SNORA5A	HIST2H3D	0.401	0.000407
SNORA5A	BMP2K	0.401	0.000407
SNORA5A	SLC2A13	0.401	0.000407
SNORA5A	HIST1H4K	0.401	0.000407
SNORA5A	AWAT1	0.403	0.00038
SNORA5A	LYST	0.403	0.00038
SNORA5A	HIST1H1A	0.405	0.000354
SNORA5A	GCNT7	0.406	0.000342
SNORA5A	LDHAL6B	0.407	0.00033
SNORA5A	SP4	0.407	0.00033
SNORA5A	DNAJB14	0.409	0.000308
SNORA5A	ATP8B4	0.409	0.000308
SNORA5A	BRWD1	0.41	0.000297
SNORA5A	SUMO4	0.412	0.000277
SNORA5A	FBXO40	0.412	0.000277
SNORA5A	MKLN1	0.414	0.000258
SNORA5A	OSBPL8	0.414	0.000258
SNORA5A	FGL2	0.415	0.000248
SNORA5A	HIST1H2AL	0.415	0.000248
SNORA5A	ZNF573	0.416	0.00024
SNORA5A	HIST1H3J	0.416	0.00024
SNORA5A	FRYL	0.416	0.00024
SNORA5A	KIAA0825	0.417	0.000231
SNORA5A	IL5	0.418	0.000223
SNORA5A	ZNF724	0.418	0.000223
SNORA5A	NAIP	0.419	0.000215
SNORA5A	AL449266.1	0.42	0.000208
SNORA5A	HIST1H2AH	0.422	0.000193
SNORA5A	MIOS	0.423	0.000186
SNORA5A	DENND1B	0.425	0.000173

SNORA5A	XRN1	0.426	0.000167
SNORA5A	ATP5L2	0.427	0.000161
SNORA5A	IFIT1B	0.431	0.000139
SNORA5A	ERVW-1	0.431	0.000139
SNORA5A	HIST1H3C	0.432	0.000134
SNORA5A	BTBD8	0.433	0.000129
SNORA5A	CDKL4	0.434	0.000124
SNORA5A	CRYBG3	0.435	0.000119
SNORA5A	HIPK3	0.436	0.000115
SNORA5A	MORC3	0.437	0.000111
SNORA5A	NRIP1	0.439	0.000103
SNORA5A	HIST1H2BL	0.439	0.000103
SNORA5A	HIST1H4L	0.439	0.000103
SNORA5A	LINC00238	0.44	9.90E-05
SNORA5A	ZNF410	0.441	9.53E-05
SNORA5A	CHRNG	0.441	9.53E-05
SNORA5A	VPS13B	0.442	9.17E-05
SNORA5A	ACSM6	0.447	7.58E-05
SNORA5A	HIST1H2AI	0.449	7.02E-05
SNORA5A	VPS13C	0.449	7.02E-05
SNORA5A	HIST1H3I	0.45	6.75E-05
SNORA5A	ZBTB41	0.45	6.75E-05
SNORA5A	HIST1H2AE	0.451	6.50E-05
SNORA5A	HIST1H2BN	0.453	6.01E-05
SNORA5A	TTN	0.454	5.78E-05
SNORA5A	HIST1H4F	0.454	5.78E-05
SNORA5A	UTP20	0.457	5.14E-05
SNORA5A	WDPCP	0.458	4.94E-05
SNORA5A	DNAH14	0.459	4.75E-05
SNORA5A	DMXL1	0.46	4.57E-05
SNORA5A	HIST1H2AG	0.464	3.90E-05
SNORA5A	TAS2R31	0.465	3.75E-05
SNORA5A	ANKAR	0.465	3.75E-05
SNORA5A	TAS2R43	0.466	3.60E-05
SNORA5A	LNPEP	0.469	3.19E-05
SNORA5A	HIST1H2BB	0.469	3.19E-05
SNORA5A	HIST2H2BF	0.469	3.19E-05
SNORA5A	HIST1H3G	0.473	2.72E-05
SNORA5A	HIST1H2BC	0.474	2.61E-05
SNORA5A	CEP350	0.477	2.31E-05
SNORA5A	HIST1H2BO	0.477	2.31E-05
SNORA5A	GDAP2	0.477	2.31E-05
SNORA5A	TCP11L2	0.478	2.22E-05
SNORA5A	HIST1H2BE	0.478	2.22E-05

SNORA5A	AL138752.2	0.48	2.04E-05
SNORA5A	HIST1H3F	0.48	2.04E-05
SNORA5A	HIST1H2AJ	0.481	1.96E-05
SNORA5A	HIST1H2BJ	0.483	1.81E-05
SNORA5A	HIST1H2AB	0.484	1.73E-05
SNORA5A	C4orf45	0.484	1.73E-05
SNORA5A	HIST1H4J	0.485	1.66E-05
SNORA5A	HIST1H3A	0.486	1.60E-05
SNORA5A	HIST1H1B	0.487	1.53E-05
SNORA5A	RBM15	0.488	1.47E-05
SNORA5A	LTN1	0.489	1.41E-05
SNORA5A	HIST1H2AD	0.491	1.30E-05
SNORA5A	ZNF451	0.494	1.14E-05
SNORA5A	SHPRH	0.494	1.14E-05
SNORA5A	CRYBA1	0.495	1.09E-05
SNORA5A	HIST1H3D	0.496	1.05E-05
SNORA5A	AC092835.1	0.497	1.01E-05
SNORA5A	ATM	0.497	1.01E-05
SNORA5A	HIST1H2AM	0.499	9.24E-06
SNORA5A	POMK	0.502	8.13E-06
SNORA5A	NBEAL1	0.502	8.13E-06
SNORA5A	GK3P	0.503	7.79E-06
SNORA5A	HIST1H2BH	0.505	7.14E-06
SNORA5A	ABRA	0.506	6.84E-06
SNORA5A	HIST1H4D	0.507	6.55E-06
SNORA5A	ANKRD36C	0.508	6.28E-06
SNORA5A	AC013394.1	0.51	5.75E-06
SNORA5A	FAM217A	0.512	5.27E-06
SNORA5A	ZNF483	0.512	5.27E-06
SNORA5A	GNRHR	0.513	5.05E-06
SNORA5A	HIST4H4	0.514	4.83E-06
SNORA5A	APLF	0.515	4.63E-06
SNORA5A	HIST1H2BG	0.516	4.43E-06
SNORA5A	ZNF699	0.516	4.43E-06
SNORA5A	ANKRD36B	0.517	4.24E-06
SNORA5A	ZNF557	0.517	4.24E-06
SNORA5A	HIST1H3B	0.519	3.88E-06
SNORA5A	HIST1H2BF	0.521	3.55E-06
SNORA5A	AC087632.1	0.521	3.55E-06
SNORA5A	HIST1H4A	0.521	3.55E-06
SNORA5A	ANKRD36	0.529	2.48E-06
SNORA5A	TAS2R19	0.53	2.37E-06
SNORA5A	C9orf131	0.531	2.27E-06
SNORA5A	CCSER1	0.532	2.17E-06

SNORA5A	LRRTM2	0.533	2.07E-06
SNORA5A	HIST1H2BI	0.536	1.81E-06
SNORA5A	ADAM20	0.536	1.81E-06
SNORA5A	IFNK	0.547	1.09E-06
SNORA5A	HIST2H2AB	0.55	9.48E-07
SNORA5A	HIST1H2BM	0.551	9.05E-07
SNORA5A	HIST1H4H	0.551	9.05E-07
SNORA5A	BIRC6	0.555	7.50E-07
SNORA5A	TAS2R3	0.569	3.85E-07
SNORA5A	ERCC6L2	0.572	3.33E-07
SNORA5A	TAS2R46	0.575	2.88E-07
SNORA5A	ZNF490	0.576	2.74E-07
SNORA5A	PBOV1	0.578	2.48E-07
SNORA5A	ZBED6	0.579	2.36E-07
SNORA5A	HIST1H1E	0.581	2.14E-07
SNORA5A	C10orf113	0.584	1.85E-07
SNORA5A	HIST1H1D	0.585	1.76E-07
SNORA5A	HIST1H4B	0.594	1.12E-07
SNORA5A	SNX13	0.596	1.01E-07
SNORA5A	CCDC7	0.598	9.17E-08
SNORA5A	HIST2H2AC	0.598	9.17E-08
SNORA5A	TROVE2	0.606	6.10E-08
SNORA5A	ZNF805	0.608	5.51E-08
SNORA5A	KCNJ13	0.611	4.72E-08
SNORA5A	BTBD18	0.614	4.04E-08
SNORA5A	KLHL11	0.633	1.48E-08
SNORA5A	MAB21L2	0.636	1.26E-08
SNORA5A	ZNF124	0.64	1.02E-08
SNORA5A	ZBTB20	0.64	1.02E-08
SNORA5A	PRSS48	0.641	9.65E-09
SNORA5A	TAS2R50	0.642	9.14E-09
SNORA5A	GPR52	0.653	5.01E-09
SNORA5A	TAS2R30	0.655	4.48E-09
SNORA5A	HIST1H4E	0.66	3.40E-09
SNORA5A	HIST1H4C	0.669	2.05E-09
SNORA5A	GPR22	0.67	1.94E-09
SNORA5A	TAS2R13	0.675	1.46E-09
SNORA5A	ZNF460	0.709	2.01E-10
SNORA5A	POU5F2	0.738	3.44E-11
SNORA5A	SNORA5A	1	1.72E-19
SNORA70	PDE6A	0.2	0.000303
SNORA70	CALR	0.201	0.000282
SNORA70	PATZ1	0.202	0.000262
SNORA70	XPOT	0.203	0.000244

SNORA70	CABP4	0.203	0.000244
SNORA70	ZNF689	0.203	0.000244
SNORA70	RRP36	0.204	0.000227
SNORA70	C6orf223	0.204	0.000227
SNORA70	OAZ2	0.204	0.000227
SNORA70	NME1-NME2	0.205	0.000211
SNORA70	FKBP10	0.206	0.000197
SNORA70	TMED2	0.206	0.000197
SNORA70	TM2D3	0.206	0.000197
SNORA70	ALX3	0.206	0.000197
SNORA70	EXT2	0.206	0.000197
SNORA70	CTBS	0.207	0.000183
SNORA70	SUV39H2	0.207	0.000183
SNORA70	PTPN20	0.207	0.000183
SNORA70	YIPF4	0.207	0.000183
SNORA70	ARFIP2	0.207	0.000183
SNORA70	PPIL1	0.207	0.000183
SNORA70	IFITM1	0.207	0.000183
SNORA70	ICE2	0.208	0.00017
SNORA70	HSP90B1	0.208	0.00017
SNORA70	C16orf58	0.208	0.00017
SNORA70	MCFD2	0.209	0.000158
SNORA70	MRS2	0.21	0.000146
SNORA70	AL161911.1	0.21	0.000146
SNORA70	ADPGK	0.211	0.000136
SNORA70	MESP1	0.211	0.000136
SNORA70	BPIFA2	0.211	0.000136
SNORA70	IDH3A	0.211	0.000136
SNORA70	CTSF	0.211	0.000136
SNORA70	TXNDC12	0.211	0.000136
SNORA70	PREB	0.212	0.000126
SNORA70	BSCL2	0.212	0.000126
SNORA70	NT5DC2	0.212	0.000126
SNORA70	MANF	0.214	0.000109
SNORA70	F7	0.214	0.000109
SNORA70	PARS2	0.214	0.000109
SNORA70	GRSF1	0.216	9.33E-05
SNORA70	ACRBP	0.217	8.64E-05
SNORA70	C2orf16	0.217	8.64E-05
SNORA70	SEC11A	0.218	8.01E-05
SNORA70	PRRT1	0.218	8.01E-05
SNORA70	KCNQ1	0.218	8.01E-05
SNORA70	TXNDC5	0.218	8.01E-05
SNORA70	SHMT2	0.218	8.01E-05

SNORA70	PEX6	0.221	6.35E-05
SNORA70	FBXO8	0.223	5.43E-05
SNORA70	C12orf29	0.223	5.43E-05
SNORA70	RPN2	0.223	5.43E-05
SNORA70	ASCL2	0.224	5.02E-05
SNORA70	MAZ	0.226	4.29E-05
SNORA70	RCCD1	0.227	3.96E-05
SNORA70	TMEM263	0.228	3.66E-05
SNORA70	POLR2J2	0.229	3.37E-05
SNORA70	APH1B	0.229	3.37E-05
SNORA70	BHMG1	0.229	3.37E-05
SNORA70	TCTN3	0.23	3.11E-05
SNORA70	SLC2A14	0.231	2.87E-05
SNORA70	UBE2Q2	0.231	2.87E-05
SNORA70	LARGE2	0.231	2.87E-05
SNORA70	C4BPA	0.232	2.65E-05
SNORA70	PIGT	0.234	2.25E-05
SNORA70	TM7SF2	0.234	2.25E-05
SNORA70	ERGIC3	0.235	2.07E-05
SNORA70	MMP17	0.235	2.07E-05
SNORA70	TMEM176A	0.237	1.76E-05
SNORA70	ANAPC5	0.238	1.62E-05
SNORA70	PDIA3	0.238	1.62E-05
SNORA70	CMTM2	0.239	1.49E-05
SNORA70	PGM3	0.239	1.49E-05
SNORA70	ERP29	0.24	1.37E-05
SNORA70	PYGO1	0.241	1.26E-05
SNORA70	TNFRSF18	0.241	1.26E-05
SNORA70	GJB7	0.242	1.16E-05
SNORA70	ZNF771	0.242	1.16E-05
SNORA70	UBE2J1	0.243	1.06E-05
SNORA70	FAM107B	0.244	9.75E-06
SNORA70	SNCAIP	0.244	9.75E-06
SNORA70	CRELD1	0.245	8.95E-06
SNORA70	FBXO22	0.245	8.95E-06
SNORA70	FBN3	0.247	7.54E-06
SNORA70	TBX6	0.247	7.54E-06
SNORA70	FAM136A	0.247	7.54E-06
SNORA70	MOGS	0.247	7.54E-06
SNORA70	RWDD2A	0.248	6.91E-06
SNORA70	MT1H	0.25	5.81E-06
SNORA70	CXCR2	0.251	5.33E-06
SNORA70	P3H3	0.253	4.47E-06
SNORA70	POGLUT1	0.253	4.47E-06

SNORA70	FCGR3B	0.261	2.18E-06
SNORA70	RCN2	0.262	1.99E-06
SNORA70	FMO1	0.263	1.82E-06
SNORA70	RNF215	0.264	1.66E-06
SNORA70	RBP3	0.265	1.52E-06
SNORA70	APC2	0.266	1.38E-06
SNORA70	RARS2	0.267	1.26E-06
SNORA70	TGIF2-C20orf24	0.268	1.15E-06
SNORA70	EPCAM	0.268	1.15E-06
SNORA70	TMED4	0.272	7.89E-07
SNORA70	TMEM106C	0.273	7.18E-07
SNORA70	PRR19	0.275	5.94E-07
SNORA70	SIAE	0.276	5.40E-07
SNORA70	PRDX4	0.283	2.74E-07
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SNORA70	NLRP6	0.29	1.37E-07
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SNORA70	CERCAM	0.295	8.27E-08
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SNORA70	RPL7L1	0.297	6.74E-08
SNORA70	AC007998.2	0.305	2.94E-08
SNORA70	PPP1R3F	0.307	2.38E-08
SNORA70	CXCR1	0.307	2.38E-08
SNORA70	CHID1	0.308	2.14E-08
SNORA70	SDF4	0.312	1.39E-08
SNORA70	DDOST	0.313	1.25E-08
SNORA70	CNPY3	0.319	6.52E-09
SNORA70	PITX2	0.319	6.52E-09
SNORA70	LRRC26	0.323	4.19E-09
SNORA70	COX18	0.328	2.39E-09
SNORA70	TCTN1	0.33	1.91E-09
SNORA70	TCN2	0.338	7.62E-10
SNORA70	NIPSNAP1	0.34	6.04E-10
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SNORA70	PROK2	0.357	7.92E-11
SNORA70	VMO1	0.366	2.60E-11
SNORA70	FAM46A	0.369	1.78E-11
SNORA70	BSG	0.372	1.22E-11
SNORA70	CCDC36	0.378	5.63E-12
SNORA70	LHX8	0.397	4.54E-13
SNORA70	ATRAID	0.406	1.32E-13

SNORA70	LCN12	0.407	1.15E-13
SNORA70	SRMS	0.412	5.72E-14
SNORA70	AATK-AS1	0.444	5.35E-16
SNORA70	AC005020.2	0.444	5.35E-16
SNORA70	CD320	0.451	1.84E-16
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SNORA70	ARID3C	0.718	1.80E-39
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SNORA70	IFITM5	0.88	1.65E-58
SNORA70	KIR3DX1	0.897	9.93E-61
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SNORD104	MYCBP2	-0.328	0.006864
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SNORD104	PCGF1	0.308	0.018757
SNORD104	MRPS34	0.308	0.018757
SNORD104	SPPL2B	0.308	0.018757
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SNORD104	ULK3	0.309	0.01836
SNORD104	RABEP2	0.309	0.01836
SNORD104	MAMDC4	0.309	0.01836
SNORD104	TARBP2	0.31	0.017971
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SNORD104	TMUB2	0.31	0.017971
SNORD104	TMEM238	0.31	0.017971
SNORD104	NDUFA1	0.31	0.017971
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SNORD104	GADD45GIP1	0.312	0.017214
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SNORD104	EMC9	0.317	0.015442
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SNORD104	IRF3	0.318	0.015108
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SNORD104	GALK1	0.319	0.01478
SNORD104	RABGEF1	0.32	0.014458
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SNORD104	B3GAT3	0.32	0.014458
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SNORD104	SLC27A5	0.321	0.014142
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SNORD104	SERF2	0.325	0.01294
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SNORD104	B3GNTL1	0.326	0.012654
SNORD104	CNPY2	0.326	0.012654
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SNORD104	POLR2J	0.327	0.012374
SNORD104	RANGRF	0.327	0.012374
SNORD104	CLASRP	0.328	0.012099
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SNORD104	PTDSS2	0.33	0.011565
SNORD104	PUS1	0.331	0.011306
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SNORD104	HSBP1L1	0.332	0.011052

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SNORD104	CAPN10	0.336	0.010087
SNORD104	LSM7	0.336	0.010087
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SNORD104	NAA38	0.338	0.009634
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SNORD104	C19orf43	0.338	0.009634
SNORD104	SIRT6	0.338	0.009634
SNORD104	SSNA1	0.338	0.009634
SNORD104	CENPT	0.338	0.009634
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SNORD104	CUEDC2	0.339	0.009414
SNORD104	C19orf24	0.339	0.009414
SNORD104	TEN1-CDK3	0.339	0.009414
SNORD104	DUSP28	0.339	0.009414
SNORD104	DPH7	0.34	0.009198
SNORD104	NDUFV1	0.341	0.008987
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SNORD104	FASTK	0.342	0.00878
SNORD104	RGL3	0.343	0.008578
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SNORD104	SAPCD1	0.345	0.008185
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SNORD104	RASSF7	0.347	0.007809
SNORD104	PAM16	0.347	0.007809

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SNORD104	LIN7B	0.348	0.007627
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SNORD104	UFSP1	0.349	0.007448
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SNORD104	MRPL55	0.349	0.007448
SNORD104	NDUFA7	0.35	0.007273
SNORD104	CEBPD	0.35	0.007273
SNORD104	CCDC130	0.35	0.007273
SNORD104	MXD3	0.351	0.007102
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SNORD104	CHCHD1	0.352	0.006935
SNORD104	ATP5D	0.352	0.006935
SNORD104	BPIFB4	0.352	0.006935
SNORD104	ANKRD13D	0.352	0.006935
SNORD104	STK32C	0.352	0.006935
SNORD104	PTGES2	0.352	0.006935
SNORD104	UQCC3	0.353	0.006771
SNORD104	RSAD1	0.353	0.006771
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SNORD104	EIF2B4	0.354	0.006611
SNORD104	PCED1A	0.354	0.006611
SNORD104	RHOT2	0.355	0.006454
SNORD104	SNRNP35	0.356	0.0063
SNORD104	METTL23	0.356	0.0063
SNORD104	SLC25A28	0.357	0.00615
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SNORD104	HSF4	0.357	0.00615
SNORD104	ARL6IP4	0.358	0.006003
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SNORD104	HEXDC	0.36	0.005718
SNORD104	PET100	0.36	0.005718
SNORD104	FKBP2	0.361	0.00558
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SNORD104	CBX8	0.361	0.00558
SNORD104	EDF1	0.362	0.005446
SNORD104	ZNF580	0.362	0.005446
SNORD104	ATPIF1	0.362	0.005446
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SNORD104	ITPA	0.363	0.005314
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SNORD104	DECR2	0.364	0.005185
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SNORD104	E4F1	0.366	0.004936
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SNORD104	KAT2A	0.369	0.004582
SNORD104	FDX2	0.37	0.004469
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SNORD104	COMMD4	0.371	0.004359
SNORD104	RRNAD1	0.372	0.004251
SNORD104	C9orf172	0.372	0.004251
SNORD104	LRRC45	0.373	0.004146
SNORD104	TAZ	0.373	0.004146
SNORD104	CDK5RAP3	0.373	0.004146
SNORD104	ZNF692	0.374	0.004043
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SNORD104	CCDC183	0.374	0.004043
SNORD104	HDAC10	0.377	0.003748
SNORD104	TRABD	0.377	0.003748
SNORD104	CDK5RAP1	0.379	0.003563
SNORD104	TMEM259	0.379	0.003563
SNORD104	MSH5-SAPCD1	0.379	0.003563
SNORD104	TP53I13	0.381	0.003385
SNORD104	MZT2B	0.382	0.0033
SNORD104	METTL26	0.384	0.003135
SNORD104	NDUFAF8	0.384	0.003135
SNORD104	MCRIP2	0.388	0.002826
SNORD104	SCAND1	0.393	0.00248
SNORD104	DUS1L	0.395	0.002353
SNORD104	RPS28	0.398	0.002173
SNORD104	KRTCAP2	0.4	0.002061
SNORD104	ZNF414	0.406	0.001754
SNORD104	PPP1R35	0.407	0.001707
SNORD104	SELENOO	0.408	0.001661
SNORD104	ACADVL	0.408	0.001661

SNORD104	RFNG	0.411	0.001531
SNORD104	MRPL38	0.413	0.001449
SNORD104	POLL	0.413	0.001449
SNORD104	TSEN54	0.414	0.00141
SNORD104	COMTD1	0.417	0.001298
SNORD104	FBXL15	0.418	0.001262
SNORD104	MRPS26	0.432	0.000851
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SNORD104	WDR83	0.44	0.000676
SNORD104	NAT9	0.442	0.000638
SNORD104	QTRT1	0.452	0.000475
SNORD104	ASPSCR1	0.453	0.000461
SNORD104	C9orf142	0.457	0.000409
SNORD104	NT5C	0.462	0.000352
SNORD104	C19orf60	0.492	0.000138
SNORD104	OXLD1	0.495	0.000125
SNORD104	SNORD104	1	4.19E-15
snoU109	RBM5	-0.364	0.000316
snoU109	NKTR	-0.352	0.000497
snoU109	MDM4	-0.345	0.000643
snoU109	AHSA2	-0.342	0.000717
snoU109	MSS51	-0.34	0.000771
snoU109	GOLGA8B	-0.337	0.000859
snoU109	SRSF5	-0.337	0.000859
snoU109	RBM6	-0.336	0.00089
snoU109	N4BP2L2	-0.335	0.000923
snoU109	LUC7L3	-0.334	0.000956
snoU109	GNRH1	-0.331	0.001063
snoU109	ANKRD23	-0.322	0.001454
snoU109	MZF1	-0.322	0.001454
snoU109	KIAA0907	-0.321	0.001505
snoU109	UBAP1L	-0.32	0.001557
snoU109	CRYGS	-0.32	0.001557
snoU109	C8orf44	-0.317	0.001725
snoU109	POLI	-0.316	0.001784
snoU109	ARGLU1	-0.315	0.001846
snoU109	AGAP6	-0.314	0.001909
snoU109	DDX39B	-0.314	0.001909
snoU109	TIA1	-0.313	0.001974
snoU109	CSAD	-0.311	0.002111
snoU109	ZNF169	-0.31	0.002182
snoU109	ELMOD3	-0.31	0.002182
snoU109	GPS2	-0.309	0.002256
snoU109	CLK1	-0.309	0.002256

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snoU109	PCF11	-0.307	0.00241
snoU109	C3orf35	-0.305	0.002574
snoU109	JMJD7-PLA2G4B	-0.305	0.002574
snoU109	ZNF276	-0.304	0.00266
snoU109	PAN2	-0.304	0.00266
snoU109	FNBP4	-0.304	0.00266
snoU109	CBWD3	-0.304	0.00266
snoU109	CHKB	-0.304	0.00266
snoU109	FAM193B	-0.304	0.00266
snoU109	CCDC66	-0.303	0.002749
snoU109	HNRNPDL	-0.303	0.002749
snoU109	TRIM52	-0.302	0.00284
snoU109	TRIM66	-0.301	0.002933
snoU109	CCNL2	-0.3	0.00303
snoU109	PIGL	-0.299	0.003129
snoU109	DDX5	-0.299	0.003129
snoU109	PDE6C	-0.299	0.003129
snoU109	TTLL3	-0.298	0.003232
snoU109	APBB3	-0.296	0.003446
snoU109	PNISR	-0.294	0.003673
snoU109	VAMP1	-0.294	0.003673
snoU109	TUBGCP6	-0.294	0.003673
snoU109	CDK3	-0.293	0.003792
snoU109	DFNB59	-0.293	0.003792
snoU109	ERICH6B	-0.292	0.003914
snoU109	L3MBTL1	-0.292	0.003914
snoU109	HMBOX1	-0.291	0.004039
snoU109	HYPK	-0.291	0.004039
snoU109	NISCH	-0.291	0.004039
snoU109	CATSPER2	-0.291	0.004039
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snoU109	HNRNPH1	-0.29	0.004169
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snoU109	NEIL1	-0.289	0.004302
snoU109	RSRP1	-0.288	0.004438
snoU109	CLHC1	-0.288	0.004438
snoU109	GOLGA8N	-0.288	0.004438
snoU109	SEC31B	-0.288	0.004438
snoU109	ZNF589	-0.287	0.004579
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snoU109	C6orf163	-0.285	0.004873

snoU109	LENG8	-0.285	0.004873
snoU109	TARBP1	-0.284	0.005026
snoU109	LINC01125	-0.283	0.005183
snoU109	AC023509.3	-0.283	0.005183
snoU109	ENOSF1	-0.282	0.005345
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snoU109	TEPSIN	-0.281	0.005512
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snoU109	CDK5RAP3	-0.281	0.005512
snoU109	HEMK1	-0.281	0.005512
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snoU109	TSSK3	-0.28	0.005683
snoU109	WDR27	-0.28	0.005683
snoU109	CDRT4	-0.278	0.006039
snoU109	ATG16L2	-0.278	0.006039
snoU109	ENGASE	-0.277	0.006225
snoU109	FAM229A	-0.277	0.006225
snoU109	ZNF852	-0.277	0.006225
snoU109	PCED1A	-0.277	0.006225
snoU109	PLXNB1	-0.277	0.006225
snoU109	IP6K2	-0.276	0.006416
snoU109	CBWD6	-0.276	0.006416
snoU109	NPHP3	-0.276	0.006416
snoU109	ZNF354B	-0.275	0.006612
snoU109	TAF1C	-0.275	0.006612
snoU109	TEN1-CDK3	-0.274	0.006814
snoU109	ADAT2	-0.274	0.006814
snoU109	AP001931.1	-0.273	0.007021
snoU109	CPT1B	-0.272	0.007233
snoU109	RGL4	-0.272	0.007233
snoU109	PRPF39	-0.272	0.007233
snoU109	ZNF514	-0.271	0.007452
snoU109	RBM25	-0.27	0.007676
snoU109	STK36	-0.27	0.007676
snoU109	ZNF10	-0.27	0.007676
snoU109	MTG1	-0.269	0.007907
snoU109	MASP2	-0.269	0.007907
snoU109	SPRN	-0.269	0.007907
snoU109	CFAP44	-0.269	0.007907
snoU109	NXF1	-0.268	0.008143
snoU109	CARF	-0.268	0.008143
snoU109	ASB14	-0.268	0.008143

snoU109	ACCS	−0.267	0.008386
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snoU109	C5orf63	−0.266	0.008635
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snoU109	GOLGA6L9	−0.265	0.008891
snoU109	PP2D1	−0.265	0.008891
snoU109	EIF4A1	−0.265	0.008891
snoU109	FAM217A	−0.265	0.008891
snoU109	ZNF248	−0.265	0.008891
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snoU109	PHYKPL	−0.264	0.009154
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snoU109	PAXBP1	−0.262	0.0097
snoU109	MTERF2	−0.262	0.0097
snoU109	AKAP17A	−0.262	0.0097
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snoU109	CCNL1	−0.262	0.0097
snoU109	PPP6R2	−0.261	0.009984
snoU109	C3orf62	−0.261	0.009984
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snoU109	ZRANB2	−0.261	0.009984
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snoU109	TRMT10B	−0.261	0.009984
snoU109	AC011511.1	−0.26	0.010275
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snoU109	DSE	0.32	0.001335
snoU109	PTPN12	0.328	0.001009
snoU109	ARPC1B	0.33	0.00094
snoU109	ARPC1A	0.332	0.000875
snoU109	TMCC3	0.333	0.000845
snoU109	DLD	0.337	0.000731
snoU109	ELK3	0.338	0.000705
snoU109	YWHAB	0.338	0.000705
snoU109	OR4C6	0.34	0.000656
snoU109	EIF4H	0.34	0.000656
snoU109	SRPK2	0.343	0.000588
snoU109	ARMC10	0.344	0.000566
snoU109	DUS4L	0.344	0.000566
snoU109	CALU	0.347	0.000507
snoU109	SNX12	0.348	0.000488
snoU109	CORO1C	0.353	0.000405
snoU109	SBDS	0.354	0.00039
snoU109	CDA	0.356	0.000361
snoU109	PNPLA8	0.357	0.000348
snoU109	SH3KBP1	0.358	0.000335
snoU109	PLOD3	0.358	0.000335
snoU109	TES	0.359	0.000322
snoU109	GCC1	0.367	0.000237
snoU109	CDH3	0.37	0.00021
snoU109	FOXB1	0.378	0.000153
snoU109	PSMC2	0.379	0.000147
snoU109	CCDC71L	0.38	0.000141
snoU109	ACP7	0.381	0.000136
snoU109	RALB	0.382	0.00013
snoU109	TMEM109	0.383	0.000125
snoU109	MDFIC	0.385	0.000116
snoU109	CBLL1	0.394	7.98E-05
snoU109	FAM3C	0.394	7.98E-05
snoU109	WASL	0.394	7.98E-05
snoU109	MTPN	0.397	7.04E-05
snoU109	SFRP1	0.404	5.24E-05
snoU109	COG5	0.417	2.99E-05
snoU109	SYPL1	0.459	4.39E-06
snoU109	BCAP29	0.526	1.45E-07
snoU109	snoU109	1	1.89E-23
U3	COLGALT1	-0.279	0.00053
U3	PLAUR	-0.264	0.001023
U3	MMP14	-0.256	0.001435
U3	ACTB	-0.255	0.001496

U3	ADAMTS4	−0.247	0.002078
U3	PARVB	−0.244	0.002345
U3	GPR4	−0.242	0.00254
U3	NCS1	−0.241	0.002643
U3	ABL2	−0.237	0.003095
U3	YWHAG	−0.234	0.003478
U3	SH3GL1	−0.233	0.003615
U3	SPHK1	−0.233	0.003615
U3	HIF1A	−0.229	0.004215
U3	RIPK2	−0.228	0.004378
U3	TPM4	−0.226	0.004722
U3	COL6A2	−0.226	0.004722
U3	KLF16	−0.226	0.004722
U3	FSCN1	−0.224	0.00509
U3	COL6A1	−0.223	0.005284
U3	HDGF	−0.222	0.005484
U3	MAP4K4	−0.221	0.005691
U3	RASAL2	−0.22	0.005905
U3	NRBP1	−0.22	0.005905
U3	ZBTB2	−0.218	0.006356
U3	COL1A1	−0.218	0.006356
U3	S100A16	−0.217	0.006592
U3	RND3	−0.217	0.006592
U3	TNFRSF1A	−0.217	0.006592
U3	SLC27A4	−0.216	0.006836
U3	LAMB1	−0.216	0.006836
U3	CD3EAP	−0.213	0.007619
U3	ARPC1B	−0.213	0.007619
U3	TBXA2R	−0.212	0.007897
U3	NUMBL	−0.211	0.008185
U3	PLIN3	−0.211	0.008185
U3	RELB	−0.211	0.008185
U3	THY1	−0.211	0.008185
U3	TUBB6	−0.21	0.008481
U3	RPS6KA4	−0.21	0.008481
U3	CCDC71L	−0.209	0.008787
U3	CFL1	−0.208	0.009103
U3	TNPO3	−0.208	0.009103
U3	ITPRIP	−0.208	0.009103
U3	GARS	−0.207	0.00943
U3	FOSL2	−0.207	0.00943
U3	GAS2L1	−0.207	0.00943
U3	SEMA6B	−0.207	0.00943
U3	MAPK1IP1L	−0.207	0.00943

U3	RBMS1	-0.206	0.009766
U3	ZYX	-0.206	0.009766
U3	RALA	-0.206	0.009766
U3	COL5A2	-0.205	0.010113
U3	COL1A2	-0.205	0.010113
U3	PTBP3	-0.205	0.010113
U3	SAPCD2	-0.205	0.010113
U3	EIF3B	-0.205	0.010113
U3	TIMP2	-0.205	0.010113
U3	JPT1	-0.204	0.010471
U3	RFX8	-0.204	0.010471
U3	ADAM12	-0.204	0.010471
U3	TATDN2	-0.204	0.010471
U3	COL5A1	-0.201	0.011614
U3	EMP1	-0.201	0.011614
U3	PVR	-0.201	0.011614
U3	LMNB2	-0.201	0.011614
U3	LMNA	-0.201	0.011614
U3	VASP	-0.201	0.011614
U3	PUS7	-0.201	0.011614
U3	COL5A3	-0.201	0.011614
U3	COL3A1	-0.201	0.011614
U3	RRP1B	-0.2	0.012019
U3	KRBOX4	0.2	0.020526
U3	ALG13	0.2	0.020526
U3	C17orf75	0.2	0.020526
U3	F11	0.2	0.020526
U3	TMEM125	0.2	0.020526
U3	ELMOD3	0.2	0.020526
U3	TMX4	0.2	0.020526
U3	AK9	0.201	0.019877
U3	ACBD4	0.201	0.019877
U3	ZNF641	0.201	0.019877
U3	TSSK4	0.201	0.019877
U3	ZSCAN26	0.201	0.019877
U3	TTLL2	0.201	0.019877
U3	LGALS8	0.201	0.019877
U3	MRPL21	0.201	0.019877
U3	ARMCX1	0.202	0.019246
U3	FAM46D	0.202	0.019246
U3	MALL	0.202	0.019246
U3	FMO4	0.202	0.019246
U3	DFFB	0.202	0.019246
U3	ANKDD1B	0.202	0.019246

U3	GOLGA6L9	0.203	0.018633
U3	SLC35E2B	0.203	0.018633
U3	CENPS	0.203	0.018633
U3	CLEC18C	0.203	0.018633
U3	JMJD7-PLA2G4B	0.203	0.018633
U3	GPRASP2	0.203	0.018633
U3	SCIN	0.203	0.018633
U3	POLR2M	0.203	0.018633
U3	KIAA1191	0.204	0.018036
U3	SLC25A4	0.204	0.018036
U3	CRY2	0.204	0.018036
U3	SRSF8	0.204	0.018036
U3	FBXO38	0.204	0.018036
U3	MDP1	0.205	0.017457
U3	REV1	0.205	0.017457
U3	PHKB	0.205	0.017457
U3	BBS1	0.205	0.017457
U3	ANAPC15	0.205	0.017457
U3	PCBD2	0.205	0.017457
U3	MCCC1	0.205	0.017457
U3	CBX7	0.206	0.016894
U3	CCDC189	0.206	0.016894
U3	IFT46	0.206	0.016894
U3	ZC2HC1C	0.206	0.016894
U3	RTL5	0.206	0.016894
U3	GNGT1	0.206	0.016894
U3	ARSD	0.206	0.016894
U3	DDO	0.207	0.016347
U3	PHYKPL	0.207	0.016347
U3	NICN1	0.207	0.016347
U3	LCA5L	0.208	0.015815
U3	FBXO48	0.208	0.015815
U3	SLC24A1	0.208	0.015815
U3	GGTLC1	0.208	0.015815
U3	NCMAP	0.209	0.015299
U3	GOLGA6L10	0.209	0.015299
U3	MBOAT1	0.209	0.015299
U3	SLC25A14	0.21	0.014798
U3	CYP39A1	0.21	0.014798
U3	BSCL2	0.21	0.014798
U3	CD99L2	0.21	0.014798
U3	C1orf210	0.21	0.014798
U3	FAM200B	0.21	0.014798
U3	TMEM62	0.21	0.014798

U3	CTSF	0.21	0.014798
U3	KCTD18	0.21	0.014798
U3	ZNF75D	0.212	0.013838
U3	SLC15A2	0.212	0.013838
U3	CGNL1	0.212	0.013838
U3	ZNF821	0.212	0.013838
U3	CYP4B1	0.213	0.013379
U3	GGA2	0.213	0.013379
U3	KIAA0141	0.213	0.013379
U3	IKZF5	0.214	0.012934
U3	ANKRA2	0.214	0.012934
U3	UBL7	0.214	0.012934
U3	ZMAT1	0.214	0.012934
U3	C18orf32	0.215	0.012502
U3	MLYCD	0.215	0.012502
U3	NOL12	0.215	0.012502
U3	PIGBOS1	0.216	0.012083
U3	ENPP5	0.216	0.012083
U3	C15orf40	0.216	0.012083
U3	SH2B1	0.217	0.011676
U3	RUFY3	0.217	0.011676
U3	ATP6V1G2	0.217	0.011676
U3	EDC3	0.218	0.011281
U3	ICE2	0.218	0.011281
U3	DCTN4	0.218	0.011281
U3	RSL24D1	0.218	0.011281
U3	IL11RA	0.218	0.011281
U3	DIS3L	0.219	0.010899
U3	GRAMD2	0.219	0.010899
U3	PREPL	0.22	0.010528
U3	ZNF785	0.22	0.010528
U3	FUCA1	0.22	0.010528
U3	ZNF346	0.22	0.010528
U3	RMND5B	0.22	0.010528
U3	FAM13B	0.22	0.010528
U3	APH1B	0.22	0.010528
U3	GTF2IRD2	0.22	0.010528
U3	TRIM68	0.22	0.010528
U3	KBTBD4	0.221	0.010168
U3	AP002360.1	0.221	0.010168
U3	SORL1	0.221	0.010168
U3	MPL	0.221	0.010168
U3	KLHDC2	0.221	0.010168
U3	AKR7A2	0.222	0.009819

U3	ANGPTL5	0.222	0.009819
U3	AMELX	0.222	0.009819
U3	RWDD2A	0.224	0.009153
U3	PIPOX	0.224	0.009153
U3	ZNF354B	0.225	0.008836
U3	CCDC30	0.225	0.008836
U3	ZNF540	0.225	0.008836
U3	ZFP3	0.225	0.008836
U3	MAPK10	0.225	0.008836
U3	USP3	0.225	0.008836
U3	GLS2	0.225	0.008836
U3	ABCC6	0.226	0.008528
U3	GGA1	0.226	0.008528
U3	ZNF19	0.226	0.008528
U3	BEND5	0.227	0.00823
U3	GEMIN8	0.227	0.00823
U3	ADCY9	0.227	0.00823
U3	TRIM52	0.227	0.00823
U3	CTSH	0.228	0.007941
U3	FAM76A	0.228	0.007941
U3	THAP6	0.228	0.007941
U3	C15orf61	0.228	0.007941
U3	BBS10	0.229	0.007662
U3	SELENOP	0.229	0.007662
U3	RPLP1	0.229	0.007662
U3	HRC	0.23	0.007391
U3	FRZB	0.23	0.007391
U3	HADH	0.23	0.007391
U3	FGF21	0.23	0.007391
U3	AL139353.1	0.231	0.007129
U3	ANKRD54	0.231	0.007129
U3	CYP2R1	0.231	0.007129
U3	ZBED8	0.231	0.007129
U3	FUNDC2	0.232	0.006875
U3	TSGA10IP	0.232	0.006875
U3	PAN2	0.232	0.006875
U3	TOX3	0.232	0.006875
U3	TMEM50B	0.233	0.006629
U3	FAM221B	0.234	0.006392
U3	TXNDC16	0.234	0.006392
U3	C16orf58	0.234	0.006392
U3	GDF10	0.234	0.006392
U3	ZSCAN12	0.235	0.006162
U3	BEX2	0.235	0.006162

U3	PARP16	0.236	0.005939
U3	SDR42E1	0.237	0.005724
U3	MEAF6	0.237	0.005724
U3	GAL	0.237	0.005724
U3	MAP10	0.237	0.005724
U3	ZBTB3	0.238	0.005516
U3	CLK4	0.238	0.005516
U3	RABL2A	0.239	0.005314
U3	NRAP	0.239	0.005314
U3	CD302	0.239	0.005314
U3	BBS4	0.239	0.005314
U3	TRIM63	0.24	0.00512
U3	TSPOAP1	0.24	0.00512
U3	CERS4	0.241	0.004931
U3	HSBP1	0.242	0.00475
U3	SLC25A42	0.242	0.00475
U3	SPATA6	0.242	0.00475
U3	RNF113B	0.243	0.004574
U3	NKX6-3	0.244	0.004404
U3	BEX4	0.244	0.004404
U3	SNX1	0.244	0.004404
U3	SST	0.245	0.00424
U3	RCHY1	0.245	0.00424
U3	CCDC121	0.246	0.004081
U3	ARMCX6	0.246	0.004081
U3	PTGDR2	0.246	0.004081
U3	ADCY5	0.246	0.004081
U3	BRD8	0.246	0.004081
U3	INCA1	0.246	0.004081
U3	ING4	0.247	0.003928
U3	ZNF157	0.248	0.00378
U3	TMEM63C	0.248	0.00378
U3	ZNF774	0.248	0.00378
U3	PKIG	0.249	0.003637
U3	WBP1	0.25	0.003499
U3	APITD1-CORT	0.255	0.002878
U3	PCP4	0.255	0.002878
U3	MAGT1	0.257	0.002659
U3	WDR73	0.257	0.002659
U3	THAP10	0.258	0.002556
U3	TMEM8B	0.258	0.002556
U3	FBXO9	0.259	0.002456
U3	ZBED5	0.261	0.002267
U3	MASP2	0.261	0.002267

U3	KIAA0319L	0.261	0.002267
U3	CPT1A	0.264	0.002008
U3	TCEAL8	0.264	0.002008
U3	LRRC49	0.265	0.001928
U3	TCEANC	0.267	0.001776
U3	RSPH6A	0.268	0.001705
U3	RSG1	0.269	0.001636
U3	CLK3	0.27	0.001569
U3	TSSK3	0.272	0.001444
U3	ABAT	0.273	0.001385
U3	SLC35E2	0.273	0.001385
U3	HACD3	0.274	0.001328
U3	TIMM10B	0.274	0.001328
U3	CARF	0.274	0.001328
U3	TSPYL2	0.277	0.00117
U3	SARM1	0.278	0.001122
U3	UGT3A1	0.278	0.001122
U3	NOTO	0.278	0.001122
U3	KSR2	0.279	0.001075
U3	BSDC1	0.279	0.001075
U3	MYOZ1	0.281	0.000987
U3	MTFR1L	0.281	0.000987
U3	UNC13C	0.283	0.000905
U3	DNALI1	0.283	0.000905
U3	RBL2	0.284	0.000867
U3	DNAJC27	0.287	0.000761
U3	SPIN3	0.288	0.000728
U3	FAM219B	0.292	0.00061
U3	SEC11C	0.295	0.000534
U3	MAGEB17	0.297	0.000488
U3	SENP8	0.304	0.000354
U3	ZNF280D	0.316	0.000202
U3	GGT7	0.329	0.000107
U3	SPOCK3	0.338	6.82E-05
U3	MAGEH1	0.35	3.67E-05
U3	U3	1	4.93E-33

Table S4. Functional enrichment results of snoRNA co-expressed genes.

Term	Count	%	P value
GO:0000786~nucleosome	56	1.888702	1.87E-22
GO:0005634~nucleus	1002	33.79427	8.31E-19
GO:0005515~protein binding	1549	52.24283	3.86E-18
GO:0005654~nucleoplasm	565	19.05565	2.08E-17
GO:0003676~nucleic acid binding	238	8.026981	1.29E-13
GO:0003677~DNA binding	365	12.31029	1.74E-13
GO:0006334~nucleosome assembly	52	1.753794	4.08E-13
GO:0045815~positive regulation of gene expression, epigenetic	34	1.146712	3.81E-12
GO:0032200~telomere organization	20	0.674536	1.80E-10
GO:0006355~regulation of transcription, DNA-templated	317	10.6914	2.09E-10
GO:0044822~poly(A) RNA binding	251	8.46543	2.84E-10
GO:0046872~metal ion binding	416	14.03035	5.57E-10
GO:0000183~chromatin silencing at rDNA	23	0.775717	8.79E-10
GO:0016607~nuclear speck	65	2.192243	9.53E-10
GO:0000788~nuclear nucleosome	24	0.809444	7.37E-09
GO:0006335~DNA replication-dependent nucleosome assembly	20	0.674536	1.30E-08
GO:0005925~focal adhesion	101	3.406408	1.94E-08
GO:0000228~nuclear chromosome	26	0.876897	2.46E-08
GO:0006351~transcription, DNA-templated	377	12.71501	2.13E-07
GO:0045814~negative regulation of gene expression, epigenetic	24	0.809444	2.36E-07
GO:0051290~protein heterotetramerization	21	0.708263	7.22E-07
GO:0016020~membrane	405	13.65936	1.22E-06
GO:0031047~gene silencing by RNA	38	1.281619	1.52E-06
GO:0000166~nucleotide binding	88	2.96796	1.64E-06
GO:0005737~cytoplasm	880	29.6796	2.59E-06
GO:0008380~RNA splicing	48	1.618887	1.11E-05
GO:0045653~negative regulation of megakaryocyte differentiation	12	0.404722	1.13E-05
GO:0004674~protein serine/threonine kinase activity	90	3.035413	1.32E-05
GO:0000398~mRNA splicing, via spliceosome	59	1.989882	1.68E-05
GO:0000784~nuclear chromosome, telomeric region	39	1.315346	2.14E-05
GO:0004842~ubiquitin-protein transferase activity	80	2.698145	2.32E-05
GO:0034080~CENP-A containing nucleosome assembly	19	0.640809	2.41E-05
GO:0006352~DNA-templated transcription, initiation	17	0.573356	2.77E-05
GO:0060968~regulation of gene silencing	9	0.303541	3.07E-05
GO:0016233~telomere capping	13	0.438449	3.96E-05
GO:0006303~double-strand break repair via nonhomologous end joining	23	0.775717	8.87E-05
GO:0006396~RNA processing	30	1.011804	1.83E-04

GO:0042393~histone binding	35	1.180438	2.85E-04
GO:0005524~ATP binding	278	9.376054	2.93E-04
GO:0005788~endoplasmic reticulum lumen	48	1.618887	3.16E-04
GO:0010494~cytoplasmic stress granule	15	0.505902	3.83E-04
GO:0006468~protein phosphorylation	97	3.271501	4.70E-04
GO:0098641~cadherin binding involved in cell-cell adhesion	67	2.259696	5.27E-04
GO:0005913~cell-cell adherens junction	71	2.394604	6.60E-04
GO:0080182~histone H3-K4 trimethylation	9	0.303541	6.74E-04
GO:0003723~RNA binding	113	3.81113	6.97E-04
GO:0006336~DNA replication-independent nucleosome assembly	12	0.404722	8.39E-04
GO:0043234~protein complex	86	2.900506	9.59E-04
GO:0000712~resolution of meiotic recombination intermediates	9	0.303541	0.001169
GO:0046982~protein heterodimerization activity	97	3.271501	0.001232
GO:0019013~viral nucleocapsid	12	0.404722	0.001453
GO:0098609~cell-cell adhesion	61	2.057336	0.001501
GO:0005622~intracellular	238	8.026981	0.001507
GO:0005815~microtubule organizing center	38	1.281619	0.001638
GO:0015031~protein transport	83	2.799325	0.001782
GO:0006281~DNA repair	54	1.821248	0.001793
GO:0004672~protein kinase activity	77	2.596965	0.00189
GO:0071821~FANCM-MHF complex	5	0.168634	0.002172
GO:0005829~cytosol	549	18.51602	0.002188
GO:0016567~protein ubiquitination	76	2.563238	0.002301
GO:0006397~mRNA processing	43	1.450253	0.002356
GO:0043484~regulation of RNA splicing	12	0.404722	0.00242
GO:0016442~RISC complex	7	0.236088	0.002564
GO:0044267~cellular protein metabolic process	31	1.045531	0.002664
GO:0006974~cellular response to DNA damage stimulus	48	1.618887	0.003022
GO:0006623~protein targeting to vacuole	6	0.202361	0.003055
GO:0042470~melanosome	27	0.910624	0.003076
GO:0005739~mitochondrion	234	7.892074	0.003748
GO:0060271~cilium morphogenesis	34	1.146712	0.003763
GO:0035987~endodermal cell differentiation	11	0.370995	0.00462
GO:0005681~spliceosomal complex	25	0.84317	0.004859
GO:0019003~GDP binding	17	0.573356	0.005797
GO:0051726~regulation of cell cycle	31	1.045531	0.005805
GO:0006369~termination of RNA polymerase II transcription	19	0.640809	0.005915
GO:0032886~regulation of microtubule-based process	6	0.202361	0.006013
GO:0031124~mRNA 3'-end processing	16	0.539629	0.006042
GO:1903506~regulation of nucleic acid-templated transcription	8	0.269815	0.006072

GO:0016032~viral process	63	2.124789	0.00618
GO:0090503~RNA phosphodiester bond hydrolysis, exonucleolytic	11	0.370995	0.006221
GO:0004386~helicase activity	23	0.775717	0.008193
GO:0043928~exonucleolytic nuclear-transcribed mRNA catabolic process involved in deadenylation-dependent decay	11	0.370995	0.008222
GO:0015629~actin cytoskeleton	47	1.58516	0.008386
GO:0001568~blood vessel development	13	0.438449	0.008668
GO:0000932~cytoplasmic mRNA processing body	21	0.708263	0.009144
GO:0045335~phagocytic vesicle	13	0.438449	0.009151
GO:0033038~bitter taste receptor activity	10	0.337268	0.009288
GO:0003700~transcription factor activity, sequence-specific DNA binding	175	5.902192	0.009651
GO:0005730~nucleolus	153	5.160202	0.010704
GO:0030199~collagen fibril organization	13	0.438449	0.010822
GO:0051020~GTPase binding	10	0.337268	0.012305
GO:0015986~ATP synthesis coupled proton transport	9	0.303541	0.012418
GO:0003735~structural constituent of ribosome	48	1.618887	0.012474
GO:0005743~mitochondrial inner membrane	84	2.833052	0.013476
GO:0043161~proteasome-mediated ubiquitin-dependent protein catabolic process	44	1.48398	0.014028
GO:0035097~histone methyltransferase complex	9	0.303541	0.01462
GO:0005178~integrin binding	26	0.876897	0.015066
GO:0043001~Golgi to plasma membrane protein transport	10	0.337268	0.015149
GO:0031297~replication fork processing	10	0.337268	0.015149
GO:0006405~RNA export from nucleus	16	0.539629	0.015239
GO:0007249~I-kappaB kinase/NF-kappaB signaling	17	0.573356	0.015465
GO:0045732~positive regulation of protein catabolic process	17	0.573356	0.015465
GO:0043240~Fanconi anaemia nuclear complex	7	0.236088	0.016293
GO:0003713~transcription coactivator activity	52	1.753794	0.016479
GO:0006607~NLS-bearing protein import into nucleus	9	0.303541	0.01655
GO:0051010~microtubule plus-end binding	6	0.202361	0.017529
GO:0005759~mitochondrial matrix	64	2.158516	0.017971
GO:0031492~nucleosomal DNA binding	14	0.472175	0.018343
GO:0055037~recycling endosome	26	0.876897	0.01867
GO:0032007~negative regulation of TOR signaling	10	0.337268	0.019379
GO:0003712~transcription cofactor activity	19	0.640809	0.019451
GO:0005694~chromosome	25	0.84317	0.019549
GO:0005911~cell-cell junction	37	1.247892	0.020288
GO:0016584~nucleosome positioning	5	0.168634	0.022495
GO:0010008~endosome membrane	39	1.315346	0.02314
GO:0003680~AT DNA binding	5	0.168634	0.023181
GO:0005776~autophagosome	17	0.573356	0.023323
GO:1904837~beta-catenin-TCF complex assembly	13	0.438449	0.023755

GO:0010467~gene expression	14	0.472175	0.024283
GO:0032981~mitochondrial respiratory chain complex I assembly	17	0.573356	0.024311
GO:0006241~CTP biosynthetic process	6	0.202361	0.025408
GO:0006228~UTP biosynthetic process	6	0.202361	0.025408
GO:0017156~calcium ion regulated exocytosis	6	0.202361	0.025408
GO:0034329~cell junction assembly	6	0.202361	0.025408
GO:0005765~lysosomal membrane	54	1.821248	0.026138
GO:0003684~damaged DNA binding	17	0.573356	0.026176
GO:0043422~protein kinase B binding	6	0.202361	0.02631
GO:0045859~regulation of protein kinase activity	11	0.370995	0.026322
GO:0051015~actin filament binding	30	1.011804	0.027215
GO:0007264~small GTPase mediated signal transduction	50	1.686341	0.0274
GO:0007569~cell aging	9	0.303541	0.027616
GO:0045053~protein retention in Golgi apparatus	4	0.134907	0.027744
GO:0036498~IRE1-mediated unfolded protein response	16	0.539629	0.028369
GO:0035004~phosphatidylinositol 3-kinase activity	4	0.134907	0.028414
GO:0017112~Rab guanyl-nucleotide exchange factor activity	10	0.337268	0.031848
GO:0035861~site of double-strand break	10	0.337268	0.032785
GO:0016301~kinase activity	49	1.652614	0.032997
GO:0006342~chromatin silencing	13	0.438449	0.033375
GO:0051865~protein autoubiquitination	14	0.472175	0.033411
GO:2000785~regulation of autophagosome assembly	7	0.236088	0.034051
GO:0006376~mRNA splice site selection	7	0.236088	0.034051
GO:0042826~histone deacetylase binding	24	0.809444	0.034737
GO:0032947~protein complex scaffold	12	0.404722	0.034862
GO:0030695~GTPase regulator activity	7	0.236088	0.035382
GO:2000786~positive regulation of autophagosome assembly	5	0.168634	0.035681
GO:0042921~glucocorticoid receptor signaling pathway	5	0.168634	0.035681
GO:0006474~N-terminal protein amino acid acetylation	5	0.168634	0.035681
GO:0006220~pyrimidine nucleotide metabolic process	5	0.168634	0.035681
GO:0035988~chondrocyte proliferation	5	0.168634	0.035681
GO:0042787~protein ubiquitination involved in ubiquitin-dependent protein catabolic process	33	1.112985	0.036
GO:0032006~regulation of TOR signaling	6	0.202361	0.036219
GO:0006183~GTP biosynthetic process	6	0.202361	0.036219
GO:0036002~pre-mRNA binding	5	0.168634	0.036727
GO:0010629~negative regulation of gene expression	30	1.011804	0.038456
GO:0006289~nucleotide-excision repair	12	0.404722	0.039027
GO:0005794~Golgi apparatus	148	4.991568	0.042698
GO:0070979~protein K11-linked ubiquitination	9	0.303541	0.042954
GO:0035329~hippo signaling	9	0.303541	0.042954
GO:0002224~toll-like receptor signaling pathway	9	0.303541	0.042954

GO:0031293~membrane protein intracellular domain proteolysis	7	0.236088	0.044678
GO:0006493~protein O-linked glycosylation	10	0.337268	0.044845
GO:0005942~phosphatidylinositol 3-kinase complex	6	0.202361	0.045614
GO:0030140~trans-Golgi network transport vesicle	6	0.202361	0.045614
GO:0042800~histone methyltransferase activity (H3-K4 specific)	7	0.236088	0.04637
GO:0090544~BAF-type complex	4	0.134907	0.046558
GO:0030670~phagocytic vesicle membrane	15	0.505902	0.048677
GO:0005840~ribosome	34	1.146712	0.048791
GO:0090382~phagosome maturation	4	0.134907	0.049265
GO:0010659~cardiac muscle cell apoptotic process	4	0.134907	0.049265
GO:0010606~positive regulation of cytoplasmic mRNA processing body assembly	4	0.134907	0.049265
GO:0061157~mRNA destabilization	4	0.134907	0.049265
GO:0071044~histone mRNA catabolic process	6	0.202361	0.049459
GO:0070208~protein heterotrimerization	6	0.202361	0.049459
GO:0043508~negative regulation of JUN kinase activity	6	0.202361	0.049459
GO:0046835~carbohydrate phosphorylation	8	0.269815	0.049658
GO:0051439~regulation of ubiquitin-protein ligase activity involved in mitotic cell cycle	8	0.269815	0.049658
hsa05322:Systemic lupus erythematosus	57	1.922428	6.53E-16
hsa05034:Alcoholism	60	2.023609	1.34E-11
hsa05203:Viral carcinogenesis	62	2.091062	1.14E-09
hsa04510:Focal adhesion	51	1.720067	2.67E-05
hsa04611:Platelet activation	34	1.146712	2.55E-04
hsa04120:Ubiquitin mediated proteolysis	35	1.180438	3.27E-04
hsa03018:RNA degradation	23	0.775717	4.76E-04
hsa05146:Amoebiasis	28	0.944351	8.52E-04
hsa04810:Regulation of actin cytoskeleton	46	1.551433	0.001278
hsa03460:Fanconi anemia pathway	17	0.573356	0.001447
hsa05131:Shigellosis	19	0.640809	0.001845
hsa05100:Bacterial invasion of epithelial cells	21	0.708263	0.003532
hsa04512:ECM-receptor interaction	22	0.74199	0.006074
hsa03040:Spliceosome	30	1.011804	0.006817
hsa00310:Lysine degradation	15	0.505902	0.008672
hsa05205:Proteoglycans in cancer	40	1.349073	0.013439
hsa04932:Non-alcoholic fatty liver disease (NAFLD)	31	1.045531	0.021899
hsa00514:Other types of O-glycan biosynthesis	8	0.269815	0.023671
hsa04144:Endocytosis	45	1.517707	0.027059
hsa05202:Transcriptional misregulation in cancer	33	1.112985	0.029623
hsa05010:Alzheimer's disease	33	1.112985	0.031962
hsa04014:Ras signaling pathway	42	1.416526	0.035097
hsa04130:SNARE interactions in vesicular transport	10	0.337268	0.035834

hsa05130:Pathogenic Escherichia coli infection	13	0.438449	0.040132
hsa05110:Vibrio cholerae infection	13	0.438449	0.045911
hsa05213:Endometrial cancer	13	0.438449	0.045911
hsa05012:Parkinson's disease	28	0.944351	0.046896

Table S5. Survival analysis results of snoRNA co-expressed genes.

ID	Adjusted Pƛ	HR	Low 95%CI	High 95%CI
TMEM125	0.000356165	0.578513	0.428393	0.781238
PGS1	0.000363967	0.577403	0.426916	0.780937
MYOZ1	0.000369327	0.582389	0.432504	0.784216
ERO1A	0.000392872	1.728346	1.277152	2.338937
ZC3H12D	0.000474359	0.579888	0.427192	0.787163
PTGDR2	0.000488276	0.585503	0.433377	0.791028
CD302	0.000559	0.590579	0.437894	0.796503
BEX4	0.000584648	0.584529	0.430417	0.793821
STEAP1	0.00060434	1.692439	1.252921	2.286138
GJB2	0.000608617	1.697384	1.254276	2.297031
PSMD2	0.000719324	1.682359	1.244505	2.274263
TMEM50B	0.000741909	0.598854	0.444581	0.806661
SLC25A42	0.000923857	0.600442	0.444022	0.811965
ACTB	0.000947335	1.660237	1.229224	2.242379
IKZF4	0.000988955	0.607456	0.451534	0.817221
ZNF451	0.001026182	0.604762	0.447919	0.816525
BBS1	0.001080507	0.605854	0.448613	0.818209
SLC2A1	0.001180792	1.649636	1.21906	2.232293
SETDB2	0.001281433	0.603951	0.444329	0.820915
EXT1	0.001300465	1.635424	1.211798	2.207144
B4GALT1	0.001380547	1.636787	1.210237	2.213674
CFL1	0.001634697	1.624343	1.201094	2.19674
PLAUR	0.001745915	1.614752	1.196211	2.179736
FOSL2	0.001837039	1.615881	1.194797	2.185369
PVR	0.001859836	1.604062	1.191134	2.16014
GSK3A	0.002003782	1.601928	1.188025	2.160032
YWHAG	0.002057354	1.613491	1.190234	2.187263
VTA1	0.002072811	1.597837	1.185761	2.153118
SPATA6	0.002152778	0.626061	0.464194	0.844371
RPS19	0.002174709	1.59292	1.182795	2.145254
CERS4	0.002288464	0.627695	0.46535	0.846677
FOSL1	0.002399161	1.597458	1.180568	2.161563
RIPK2	0.002685982	1.581776	1.172484	2.133944
RAD23A	0.002790653	1.579981	1.170658	2.132424
GLS2	0.002812808	0.635139	0.471563	0.855457
PRCD	0.002852792	0.633909	0.469848	0.855257
C1GALT1	0.002995662	1.566168	1.164613	2.106176
PSMC5	0.003227038	1.568809	1.162584	2.116976
ADAMTS4	0.003371228	1.568819	1.160977	2.119932
BEND5	0.003396582	0.639883	0.474643	0.862649
HIST1H2BF	0.003457934	1.55813	1.157422	2.097565
EPOR	0.003543001	0.640348	0.474581	0.864016

FBXO9	0.003733125	0.64054	0.474018	0.865561
KLHL11	0.003771029	0.642703	0.476548	0.86679
ZFP3	0.003828606	0.637212	0.469506	0.864822
CENPC	0.003922078	0.646607	0.480804	0.869587
IL12B	0.003988977	0.647025	0.481063	0.870243
IKZF5	0.004037896	0.646736	0.48051	0.870464
ZNF141	0.0043509	0.649289	0.482525	0.873688
AL162231.1	0.004531816	0.650465	0.483347	0.875365
RTL5	0.004602106	0.645569	0.476963	0.873778
SNX7	0.004735857	1.533064	1.139714	2.062171
NBN	0.004873062	1.533023	1.138605	2.064068
VANGL1	0.004925498	1.536887	1.139059	2.07366
RALA	0.005004094	1.530533	1.137018	2.060242
VEGFC	0.00502607	1.529843	1.136693	2.058971
CYP4B1	0.005081996	0.649521	0.48028	0.878399
KPNA4	0.005342986	1.529342	1.13419	2.062164
CDCP1	0.005354586	1.528783	1.133982	2.061038
FNDC3B	0.005405132	1.533268	1.134592	2.072033
CARHSP1	0.005891964	1.519839	1.128245	2.047349
PPOX	0.00594846	0.652602	0.481476	0.884549
EZH1	0.005959744	0.653796	0.482953	0.885075
ITGB1	0.006014246	1.520792	1.127625	2.051045
SLC44A1	0.006072468	1.525526	1.128237	2.062712
COLGALT1	0.006085468	1.513559	1.125617	2.035206
PCDH7	0.006252861	1.511825	1.124164	2.033169
EMC6	0.006402356	1.513705	1.123606	2.03924
ACTN4	0.006410888	1.526366	1.126185	2.068748
GCDH	0.006503164	0.660902	0.490448	0.890597
THAP10	0.006648162	1.517633	1.122878	2.051167
MAPK1IP1L	0.006718793	1.516318	1.122172	2.048904
ZSCAN26	0.006812388	0.661814	0.490782	0.892449
MTHFD2L	0.007305973	0.667292	0.496542	0.89676
MALSU1	0.00743635	1.507549	1.116176	2.036152
MTERF1	0.007632113	1.49811	1.113223	2.016067
WDTC1	0.007694112	0.666874	0.495048	0.898339
WDR1	0.007694306	1.498935	1.113047	2.018609
HEMK1	0.007799758	0.66722	0.49524	0.898923
ACP7	0.007808562	1.497101	1.112071	2.01544
FRZB	0.007810186	0.666346	0.494089	0.898658
UBR3	0.007814011	0.667848	0.496015	0.899208
DNAJC27	0.008140542	0.668078	0.495542	0.900686
PAPOLG	0.008142427	0.66895	0.496665	0.900999
SMS	0.008177867	1.497818	1.11026	2.02066
S100A16	0.008192359	1.49589	1.109815	2.016271

MMP14	0.008430378	1.490948	1.107656	2.006874
AC068896.1	0.008510832	0.668665	0.495453	0.902432
POSTN	0.008520947	1.493479	1.107681	2.013649
PIK3R1	0.008527204	0.670693	0.498041	0.903196
ABAT	0.008698006	0.67049	0.497397	0.903818
FAM83D	0.008771624	1.501333	1.107899	2.034481
RND3	0.00882861	1.48599	1.104757	1.99878
DNALI1	0.008850109	0.671201	0.497984	0.904669
ZNF708	0.008858611	0.667843	0.493617	0.903564
SENP8	0.008980742	0.674979	0.502613	0.906457
LRRC27	0.009135509	0.669724	0.495451	0.905299
MCRS1	0.009170558	1.489017	1.103682	2.008887
ZNF546	0.00955368	0.673461	0.499422	0.908148
STK17B	0.009652936	0.676261	0.50287	0.909437
PTPRC	0.010150746	0.67156	0.495732	0.90975
CD3EAP	0.0103048	1.474922	1.096052	1.984757
PGM2	0.010392633	1.478267	1.096262	1.993387
KLK13	0.010441426	0.679794	0.505926	0.913415
EIF4E	0.010473006	1.475722	1.095477	1.987953
AC006978.2	0.01085613	0.676026	0.500187	0.913681
ATL3	0.010899882	1.475219	1.093608	1.989991
ZNF785	0.010929105	0.677329	0.501756	0.914339
RNF4	0.010950619	1.477692	1.09382	1.996283
HIST1H4A	0.011287463	1.466971	1.090645	1.973147
ATP8B4	0.011290218	0.67523	0.49833	0.914928
ZNF483	0.011501686	0.673811	0.496084	0.915212
SLC15A2	0.011905717	0.683812	0.508507	0.919551
ITGA4	0.01193875	0.680311	0.503826	0.918617
SLCO1B7	0.012048653	1.461645	1.086826	1.965731
MMP3	0.012138792	1.463095	1.086723	1.969817
TSPOAP1	0.012146813	0.679343	0.502183	0.919003
RBP3	0.012340492	1.464125	1.086136	1.973659
CCDC137	0.012407466	1.461385	1.085448	1.967525
KIAA1109	0.012473078	0.681635	0.504637	0.920714
MRPL12	0.012663275	1.465087	1.085098	1.978142
C3orf62	0.012769476	0.682876	0.505771	0.921998
ATP11B	0.012967229	1.457061	1.082736	1.960797
CLEC2D	0.013042097	0.686498	0.510117	0.923865
STKLD1	0.013070185	0.686114	0.50956	0.923841
C6orf201	0.013342244	0.686991	0.510277	0.924903
MBOAT1	0.013673283	0.688531	0.51179	0.926307
TBCC	0.013678211	0.689492	0.513065	0.926586
ZNF727	0.013944683	0.688739	0.511633	0.927152
ACTR2	0.014187998	1.459622	1.078904	1.974687

FKBP11	0.014407108	0.691447	0.514527	0.9292
SLC25A16	0.014443904	0.690428	0.513105	0.929031
LAMC2	0.014596235	1.44983	1.076108	1.953341
AIG1	0.015019006	1.445825	1.074171	1.946068
TMEM63C	0.015049795	0.693964	0.516923	0.931639
ZNF791	0.015140557	0.682546	0.501525	0.928905
HCCS	0.015141556	1.455778	1.075207	1.971053
DCBLD2	0.015195895	1.443953	1.073345	1.942525
CC2D2B	0.015276225	0.689241	0.510245	0.93103
TWF1	0.01531419	1.447012	1.073411	1.950645
CCDC86	0.01544688	1.443025	1.072432	1.941683
BMT2	0.015448918	0.692237	0.514005	0.932273
EIF3B	0.016138433	1.449679	1.071235	1.961819
COL6A1	0.016263318	1.435498	1.068916	1.927798
RNF38	0.016618604	0.695941	0.5173	0.936272
ASH1L	0.017241618	0.696697	0.517453	0.938031
DOCK4	0.017262017	0.696874	0.517664	0.938124
BCAR3	0.017263446	1.438084	1.06636	1.939387
SIDT2	0.017401925	0.69785	0.518795	0.938704
RNPEPL1	0.017987948	1.434694	1.063885	1.934746
ZNF573	0.018053639	0.695948	0.515332	0.939866
FBXO44	0.018163048	0.697958	0.517911	0.940596
MSANTD3	0.018173829	1.436967	1.063659	1.941296
MYL5	0.018192936	0.69915	0.519491	0.940941
GPR1	0.018482643	1.430895	1.062054	1.927832
FUCA1	0.018557825	0.701452	0.522144	0.942335
AMT	0.018682296	0.698516	0.517983	0.941971
SH2B1	0.018931312	0.697352	0.516076	0.942304
GNAI3	0.018982353	1.432882	1.060957	1.935187
ZNF555	0.019018564	0.695359	0.513259	0.942068
G3BP1	0.019254285	1.431289	1.060043	1.932554
UEVLD	0.019314814	1.422635	1.058841	1.911422
FAM76A	0.019388672	0.701643	0.52133	0.944321
RCCD1	0.019395596	1.42616	1.059056	1.920514
SEMA3A	0.019455054	1.42294	1.058516	1.912828
PAK2	0.019732702	1.422766	1.057783	1.913685
SHCBP1	0.01985076	1.43448	1.058858	1.943353
GADD45G	0.020038541	0.702255	0.521346	0.945941
ZDHHC5	0.020069947	1.426659	1.05738	1.924905
PKD2L2	0.02018572	0.703384	0.522708	0.946512
USF3	0.020359836	0.703276	0.522344	0.946881
PIK3CG	0.020872442	0.699353	0.516347	0.947219
KCNQ1	0.021117204	0.704286	0.522802	0.948768
HMGA1	0.021617515	1.43105	1.053999	1.942984

LOX	0.021633183	1.420348	1.052801	1.916209
AL139353.1	0.021633986	0.708184	0.527552	0.950664
GAL	0.021899339	1.415588	1.051652	1.905467
AGPS	0.022103124	1.427389	1.052425	1.935947
CAMK2N1	0.02236196	1.411609	1.050146	1.897491
DOPEY1	0.022365018	0.705574	0.523094	0.951713
MBTPS2	0.022516107	1.414646	1.050107	1.905731
ZNF780B	0.022532589	0.707965	0.526198	0.952522
NUP54	0.022638929	1.413963	1.049752	1.904538
ZNF136	0.02266763	0.704824	0.521708	0.952212
UBR2	0.022904201	0.707346	0.524914	0.953182
CCDC30	0.022975532	0.707524	0.525078	0.953363
KMT2C	0.022985572	0.709173	0.527348	0.953691
HECTD3	0.02306086	0.708958	0.526964	0.953806
GARS	0.023092995	1.418131	1.049133	1.916911
ADAM10	0.023126123	1.416747	1.048916	1.913568
HIST1H2BD	0.023215724	1.40976	1.048003	1.89639
HS3ST3A1	0.023252947	1.408227	1.047764	1.8927
IL23A	0.023284568	1.410638	1.047937	1.898874
CCNT2	0.023305414	0.707848	0.52515	0.954106
ABCC6	0.024221058	0.709701	0.52669	0.956303
RBPMS	0.024514119	0.710141	0.526978	0.956966
MRM3	0.024586471	1.409103	1.0449	1.900249
PRRT1	0.024612318	1.40455	1.044411	1.888872
PIK3CB	0.024774427	1.403354	1.043949	1.886491
LMNB2	0.024815033	1.403592	1.043885	1.887249
ZNF490	0.024975294	0.712058	0.529141	0.958207
PRKAR2A	0.025105901	0.712744	0.529955	0.958578
NUDCD1	0.025185392	1.424505	1.045017	1.941802
SYS1	0.025306423	0.714983	0.532866	0.959341
SLC30A7	0.026029903	1.399735	1.040976	1.882136
SGF29	0.026094023	0.713092	0.529386	0.960546
VAMP2	0.026475231	0.715022	0.531686	0.961577
DNAH1	0.027008952	0.711272	0.525889	0.962005
PDCD6IP	0.027157398	1.394483	1.038234	1.872973
KCTD5	0.02716929	1.400458	1.038711	1.888189
SLC8A1	0.027659934	0.716181	0.53209	0.963963
NCS1	0.027668954	1.395081	1.037268	1.876326
DXO	0.028379507	0.717447	0.533144	0.96546
AC007998.2	0.028643001	1.39521	1.035371	1.88011
ZNF248	0.029224948	0.71869	0.534059	0.967151
MBTD1	0.029353927	0.716773	0.531231	0.967121
WBP2	0.029391001	0.720247	0.536095	0.967656
CCDC189	0.02941848	0.717561	0.532277	0.967342

PRPF4B	0.029485865	0.716299	0.530434	0.967293
ZNF852	0.02956018	0.7158	0.529658	0.967359
METTL9	0.029622033	1.395829	1.033536	1.885119
SETD1B	0.029667731	0.718829	0.533822	0.967954
VPS13D	0.02967594	0.719787	0.535167	0.968096
ACTG1	0.029853389	1.389051	1.032605	1.868538
ZC3H6	0.029892311	0.721661	0.537611	0.968721
LARGE2	0.029950798	0.720184	0.535462	0.96863
LIME1	0.030137232	1.390177	1.032156	1.872384
EIF4H	0.030402524	1.393542	1.031899	1.881928
ING4	0.030429277	0.719637	0.534228	0.969394
RHOC	0.03091993	1.387569	1.03053	1.868309
FBN3	0.030992827	0.722332	0.537511	0.970703
HIST1H4H	0.031149775	1.386461	1.030036	1.86622
TGFBR2	0.031209527	0.722784	0.537949	0.971127
DMAP1	0.031414215	0.721699	0.536215	0.971344
HIST4H4	0.031432029	0.722537	0.537389	0.971475
VAMP1	0.031544318	0.721977	0.536488	0.971598
CCDC18	0.032036293	1.381272	1.028108	1.85575
KLK12	0.032393947	0.72575	0.541074	0.973458
SYNE1	0.03247085	0.72302	0.53711	0.973278
SDR42E1	0.032557328	0.724487	0.539122	0.973586
CAMTA2	0.032569332	0.720746	0.533787	0.973188
HMBOX1	0.032576304	0.720283	0.533124	0.973148
RASAL2	0.032584254	1.383886	1.027305	1.864238
IRS1	0.032778965	1.380474	1.026755	1.85605
JOSD2	0.032784416	1.378529	1.026627	1.851054
LHFPL2	0.033410336	1.384782	1.025912	1.869186
ARPC1A	0.033438713	1.381302	1.02566	1.860261
RTCA	0.033886629	1.378702	1.024742	1.854925
SMARCAL1	0.034015852	1.392716	1.025304	1.891787
SLC2A11	0.034112028	0.726168	0.540118	0.976306
SCLT1	0.034168031	1.374132	1.02401	1.843965
ZNF641	0.034296696	0.725214	0.538587	0.976509
ZNF10	0.034618937	0.72642	0.540028	0.977146
GK3P	0.034694769	1.38032	1.02346	1.861611
DNAJC2	0.034864303	1.3802	1.023167	1.861818
TNPO3	0.034879148	1.376585	1.022952	1.852469
CRY2	0.035184048	0.725751	0.538572	0.977985
SH3GL1	0.035253128	1.3752	1.022258	1.849999
FAM13B	0.035409692	0.727231	0.540496	0.978481
ENPP5	0.03602582	0.726805	0.539348	0.979414
DDX52	0.036177763	1.382301	1.021076	1.871317
NAIP	0.036300179	0.723014	0.53368	0.979518

SNAI1	0.036580549	1.371187	1.019895	1.843477
CAPN12	0.036694986	0.727814	0.540223	0.980547
CHMP2B	0.037124074	1.369401	1.018944	1.840393
HERC1	0.037357032	0.728432	0.540548	0.981621
ARIH2OS	0.03848863	0.733084	0.546326	0.983684
MIF	0.038607668	1.372889	1.016745	1.853782
SENP3	0.038637679	1.367621	1.016494	1.840039
CD99L2	0.03864515	0.732585	0.545472	0.983883
LHX8	0.038700916	1.366526	1.016353	1.837347
AK9	0.038859661	0.732215	0.544759	0.984177
COL1A1	0.039168366	1.365957	1.015612	1.837156
UBA6	0.039218253	1.368441	1.015627	1.843817
LTBP1	0.039514453	1.363256	1.014986	1.831028
PRR11	0.04019588	1.369012	1.014147	1.84805
KIAA0895L	0.040610868	0.731646	0.542503	0.986733
EMP3	0.040773029	1.363438	1.013097	1.834933
SWT1	0.041199111	0.73454	0.546239	0.987751
CARM1	0.041233319	1.358917	1.012277	1.824259
HRAS	0.041864242	1.363308	1.011473	1.837526
TCP11L2	0.042440385	0.732835	0.542771	0.989454
SARM1	0.043076314	0.735009	0.545443	0.990457
TXNDC5	0.043140802	0.736143	0.547051	0.990596
NEK8	0.043216517	0.735065	0.545416	0.990658
PLEKHM3	0.043934284	0.736085	0.546351	0.991707
POLR2H	0.04403208	1.355573	1.008164	1.822697
FAM219B	0.044184061	0.738257	0.549346	0.992133
MZT2A	0.044199827	1.354661	1.00791	1.820704
PDLIM5	0.044287196	1.354086	1.007776	1.819401
MTBP	0.044418098	1.357399	1.007654	1.828537
RLIM	0.044788618	1.354622	1.007084	1.822094
LATS2	0.044811035	1.352018	1.007008	1.815232
PHKB	0.044851421	0.740031	0.551446	0.993108
FMC1	0.044899212	0.739327	0.550373	0.993152
GRAMD2	0.045235539	0.738691	0.549182	0.993593
TMEM158	0.045590749	1.357334	1.006009	1.831352
SAPCD2	0.045658799	1.353014	1.005852	1.819996
FAN1	0.046046774	0.738846	0.5488	0.994704
ZNF678	0.046586176	0.739172	0.548877	0.995442
FAM186B	0.046589028	0.740449	0.550758	0.995472
KSR2	0.046839276	0.738777	0.548106	0.995777
ZNF441	0.046852039	0.738956	0.54836	0.995797
PARS2	0.04697279	0.739895	0.549655	0.995977
CLASP2	0.047478346	0.741762	0.552042	0.996683
ANKDD1B	0.047735123	0.740033	0.549296	0.997

BTBD18	0.047846146	0.738532	0.546999	0.997129
WDR6	0.047945217	0.740702	0.550131	0.997289
NICN1	0.048112861	0.739949	0.548895	0.997503
GOLGA6L9	0.048308786	0.740895	0.55015	0.997773
LACTB2	0.048444927	1.347866	1.002041	1.813043
AP002495.2	0.048595772	0.74302	0.55309	0.998171
SNTA1	0.048627577	0.740815	0.5498	0.998194
DFFB	0.04878525	0.740184	0.548752	0.998398
ZNF589	0.04881131	0.740487	0.54918	0.998435
ADAM12	0.048907221	1.350173	1.001439	1.820348
LYPD3	0.049262401	1.356622	1.000985	1.838613
FAM136A	0.049925352	1.347108	1.000097	1.814524
NDST2	0.04992818	0.740146	0.547868	0.999906
FITM1	0.050806178	0.742579	0.550848	1.001044
DMXL1	0.050944603	0.745494	0.555092	1.001207
TAF15	0.051046407	1.341594	0.998664	1.802283
REV3L	0.051190747	0.743697	0.552239	1.001533
FSCN1	0.051231321	1.346506	0.99841	1.815965
APPL1	0.051277786	0.745064	0.554214	1.001634
ABCA5	0.051286096	0.742869	0.550939	1.001661
FPGS	0.051443441	0.746318	0.55597	1.001835
CTSH	0.051955226	0.745593	0.554529	1.002489
CRELD1	0.052105902	0.746251	0.555406	1.002672
UTP15	0.052304708	1.341458	0.997076	1.804787
C12orf29	0.052520819	1.346512	0.996764	1.81898
CHCHD3	0.053029836	1.348181	0.996103	1.824702
REV1	0.0530703	0.745423	0.553499	1.003898
SDCBP	0.053117995	1.340124	0.996071	1.803015
EPC2	0.053354367	0.74636	0.554703	1.004237
KBTBD2	0.053638129	1.342687	0.995397	1.811146
RBL2	0.054300271	0.746921	0.554894	1.005402
C5orf56	0.054377049	0.742783	0.548653	1.005602
ENDOG	0.054446119	0.748656	0.5574	1.005538
RPF2	0.054685944	1.34098	0.994123	1.808859
KLK11	0.055083022	0.747853	0.555759	1.006343
SIRT4	0.055376299	0.748604	0.55669	1.00668
CD109	0.055377339	1.338907	0.993311	1.804746
GGA2	0.055433149	0.74528	0.551662	1.006853
HPRT1	0.055457017	1.338217	0.993226	1.80304
GMFB	0.055872458	1.340048	0.992689	1.808954
COL11A1	0.05594504	1.338766	0.992625	1.805613
NRBP1	0.056234493	1.33713	0.992307	1.801778
GOLGA8N	0.056834666	0.749294	0.556749	1.008428
ITGAV	0.057246624	1.33574	0.991127	1.800174

UQCC3	0.057468954	1.334042	0.990903	1.796006
DDO	0.057859826	0.751397	0.559246	1.00957
HMGA2	0.057879666	1.331765	0.990475	1.790655
ULK3	0.05843188	0.751424	0.558911	1.010249
RFX8	0.058719882	1.331596	0.989499	1.791964
FAT4	0.058988262	0.750685	0.557426	1.010946
FRS3	0.059030301	0.751052	0.557954	1.010977
OGT	0.059145794	0.743835	0.547006	1.011491
ZMAT1	0.059867251	0.749931	0.555711	1.01203
LYAR	0.060924662	1.337043	0.986771	1.81165
PABPC1L	0.061325192	0.75264	0.558877	1.01358
SIKE1	0.061620141	1.324657	0.986412	1.778887
POLK	0.06215806	0.754353	0.560954	1.01443
MASP2	0.062277794	0.753471	0.559534	1.014629
PLIN3	0.062389016	1.325895	0.985507	1.783849
COL1A2	0.062389427	1.323759	0.985589	1.777959
ANP32B	0.062408759	1.325734	0.985491	1.783447
HIST2H2AB	0.062576019	1.323728	0.985383	1.778248
FAM107B	0.062720608	1.325015	0.985172	1.782089
ZEB2	0.062915056	0.751363	0.55592	1.015517
RUFY3	0.063359734	0.75288	0.557946	1.015919
SGSH	0.063645596	0.755945	0.562445	1.016014
MTPN	0.063934497	1.331397	0.983555	1.802255
TECPR1	0.06398993	0.755294	0.561234	1.016454
BSDC1	0.064147057	0.757182	0.564028	1.016484
SLC27A4	0.064242817	1.322692	0.983591	1.778701
MFN2	0.064427741	0.757349	0.564109	1.016786
SSBP3	0.064453338	0.755661	0.561505	1.01695
ZNF76	0.064481808	0.756483	0.562747	1.016916
ZC3H12C	0.064611743	1.322051	0.983217	1.777654
GDF10	0.064622575	0.755783	0.561587	1.017132
SPOCK3	0.065053892	1.322749	0.982704	1.78046
MVK	0.06506643	0.75718	0.563453	1.017516
TTLL2	0.065396188	0.753015	0.556873	1.018243
CUL9	0.065726755	0.751852	0.554892	1.018722
TPBG	0.0657479	1.319172	0.982124	1.77189
LYPD5	0.065961702	1.323037	0.981705	1.783048
LRCH1	0.066003441	1.320043	0.981807	1.774802
RNF11	0.066461759	0.75806	0.563943	1.018994
HIST1H3J	0.066698609	1.319259	0.981102	1.773968
PDZD9	0.066902982	0.759513	0.565911	1.019347
TSSK4	0.067072218	0.755692	0.559931	1.019894
EXOSC5	0.067184794	1.31951	0.980571	1.775605
ACTN1	0.067340865	1.316782	0.98055	1.76831

KIAA0895	0.067400396	1.315306	0.980566	1.764317
ZBTB38	0.067427632	1.318105	0.980388	1.772156
SELENOP	0.067463454	0.757149	0.561929	1.02019
ATG5	0.067929131	1.319391	0.979787	1.776703
ASB14	0.068175873	0.758095	0.562951	1.020885
SLC16A11	0.068589398	0.75983	0.565377	1.021162
KPNA5	0.068777957	0.760254	0.565918	1.021324
CDH3	0.068855982	1.315359	0.97904	1.767211
KIF27	0.068885508	0.759373	0.564493	1.021532
FBXO48	0.068928085	0.76083	0.566719	1.021427
PHF1	0.068944505	0.754234	0.55655	1.022135
SCNM1	0.068997564	1.316988	0.978798	1.772027
CTDNEP1	0.069026519	1.318139	0.978701	1.775302
PICALM	0.069182278	1.320798	0.978383	1.783052
SLC35F2	0.069325938	1.320364	0.978257	1.78211
CORO1C	0.069446663	1.317701	0.978287	1.774874
HNRNPD	0.069678076	1.316363	0.978125	1.771564
PRPF31	0.069883261	1.313684	0.978073	1.764454
UGGT2	0.069909377	1.317127	0.977838	1.774141
HOMER1	0.070246917	1.314792	0.97763	1.768233
PATE4	0.070316467	1.31404	0.977605	1.766257
SLC25A32	0.070456404	1.317096	0.977271	1.775088
TUBA1B	0.070468737	1.321255	0.977001	1.78681
ATAT1	0.070532013	0.759987	0.564454	1.023256
IL11RA	0.07082363	0.755914	0.557992	1.024038
FHL2	0.070892553	1.312579	0.977105	1.763233
COL6A2	0.070935245	1.31085	0.977171	1.758472
POLL	0.071043198	0.760851	0.565487	1.023709
CAST	0.071174655	1.312889	0.976797	1.764623
CRTC1	0.071463345	0.757772	0.560474	1.024523
RELA	0.071560115	1.312685	0.976417	1.764762
ZNF333	0.071591523	0.758206	0.561068	1.024611
STXBP5	0.071986784	1.313219	0.975947	1.767047
ZNF185	0.072624437	1.313309	0.975293	1.768476
PGP	0.073004896	1.313272	0.97491	1.76907
ARNTL2	0.073204192	1.320798	0.974185	1.790736
SLC30A1	0.073238692	1.31284	0.974703	1.768281
SLC26A11	0.073634753	0.763435	0.567979	1.026152
FKBP10	0.073791329	1.310689	0.974299	1.763222
GABPA	0.074056072	1.309392	0.974128	1.760043
AFAP1	0.074355254	1.308139	0.973922	1.757047
RPS6KB2	0.074892724	0.765165	0.569952	1.027241
ETFB	0.07507067	1.306555	0.973333	1.753857
ATXN1	0.075496662	0.764419	0.568437	1.027971

TMEM59L	0.07562022	0.765414	0.569923	1.027962
DGKE	0.075692923	0.764931	0.569124	1.028104
FBXL8	0.076227428	0.764328	0.567874	1.028745
GTF2A1	0.076441858	1.306764	0.971972	1.756874
ZNF510	0.076848908	0.765889	0.569964	1.029164
SPDYE1	0.076916153	1.305464	0.971613	1.754027
COL5A3	0.077670371	1.303001	0.971085	1.748366
ZNF564	0.078000576	0.766292	0.569941	1.030288
TTC39B	0.07812231	0.763824	0.566001	1.030787
ZNF662	0.078213372	0.766664	0.570405	1.03045
NAMPT	0.078799121	1.30346	0.969963	1.751623
OTUD3	0.079485575	0.766945	0.570129	1.031704
ZNF436	0.079658387	0.768138	0.571913	1.03169
GPRIN2	0.079816796	0.762968	0.5637	1.032679
ZYX	0.079923068	1.299692	0.969224	1.742838
CD80	0.079973877	0.765926	0.568251	1.032365
PIKFYVE	0.079982459	0.767799	0.571197	1.032072
TCEANC	0.080122694	0.763876	0.564948	1.032849
BAZ2B	0.080339225	0.767164	0.569995	1.032536
SENP7	0.080953359	0.767192	0.569696	1.033154
ZNF14	0.081107976	0.768496	0.571667	1.033094
YDJC	0.081306876	1.304168	0.967509	1.757972
CNPY3	0.081339525	0.768848	0.572094	1.033268
METTL25	0.081393586	0.769167	0.57257	1.033268
XPOT	0.08155167	1.300764	0.967593	1.748656
RPL18	0.081584706	1.298305	0.967792	1.741693
GAS2L1	0.081643091	1.30012	0.967568	1.74697
TOR1AIP1	0.081762211	0.769721	0.573242	1.033543
MAP4K4	0.081832361	1.301218	0.967287	1.750428
CYP4A11	0.081857088	0.766704	0.568423	1.034151
AIP	0.082173796	0.770011	0.573474	1.033904
LRRC58	0.082213478	1.300058	0.96704	1.747756
BACH1	0.082530113	1.299433	0.966804	1.746502
SEC11C	0.082545517	0.767821	0.569803	1.034654
MEAF6	0.082610573	0.770413	0.573871	1.034269
PRPF19	0.082866803	1.303715	0.966077	1.759356
WSB1	0.083168034	0.768787	0.570986	1.035109
MGMT	0.083632359	0.771605	0.575203	1.035069
C18orf32	0.083945388	0.771349	0.574625	1.035422
RAPGEF5	0.083945912	0.768377	0.569909	1.035959
MMP24-AS1	0.084027766	0.771109	0.574199	1.035547
CD226	0.084620539	0.767118	0.567547	1.036865
SPIN3	0.084659488	0.769377	0.571103	1.036487
SYDE2	0.084964377	0.770792	0.573184	1.036527

HELZ	0.08498287	0.771446	0.574213	1.036425
MSH3	0.085106695	1.296506	0.964718	1.742405
MACF1	0.085149568	0.770131	0.572033	1.036833
SLC35A4	0.085499729	1.298599	0.964142	1.749078
NPRL2	0.08557609	0.771291	0.573644	1.037036
UBE2R2	0.085902209	1.296245	0.964019	1.742965
DNAJB6	0.086514776	1.296679	0.963416	1.745224
MTFR1L	0.087204585	0.773132	0.575702	1.038269
PIGL	0.087255723	0.772092	0.574014	1.038523
HIST1H2BC	0.087268329	1.294369	0.962983	1.739793
ANO9	0.087292642	0.770971	0.572207	1.03878
EIF2S2	0.087544608	1.294449	0.962726	1.740472
SSR4	0.087576639	0.77381	0.576586	1.038495
NRAS	0.088743519	1.295863	0.96149	1.74652
FAAP20	0.089059693	1.291559	0.961694	1.734569
C6orf223	0.089128271	1.291943	0.96159	1.735788
MALL	0.089182119	0.774373	0.576632	1.039925
RGL4	0.089420504	0.771447	0.571823	1.04076
STX16-NPEPL1	0.089567158	0.769874	0.569235	1.041231
HIST1H2AL	0.089707988	1.292674	0.960991	1.738837
ZNF138	0.08976758	1.291727	0.961047	1.736189
GPRASP2	0.090129206	0.775118	0.577324	1.040676
BMP2K	0.090358122	0.772954	0.573733	1.041352
HIST1H3D	0.090459875	1.291231	0.960493	1.735856
KDELC2	0.090856917	1.294562	0.95975	1.746176
TTC21B	0.090882744	0.773433	0.574222	1.041755
DPY19L4	0.091386954	1.291456	0.95965	1.737987
ZNF653	0.091646198	1.291155	0.959459	1.737522
SLC25A40	0.091660962	1.291031	0.95946	1.737187
SLC35F6	0.091775215	1.292493	0.959184	1.741624
DCLRE1B	0.09193417	1.291135	0.959208	1.737921
ZNF106	0.093058248	0.774546	0.574863	1.04359
PGM1	0.093064301	1.291474	0.958177	1.740706
NIPSNAP3B	0.093270387	0.775647	0.576525	1.043543
ZFYVE27	0.093437359	0.775332	0.575929	1.043772
SAMD9	0.093550421	1.287194	0.958289	1.728986
DDX60	0.093693171	1.289441	0.957883	1.735764
IRAK1	0.093722312	1.285779	0.958319	1.725133
MSS51	0.093996892	0.775812	0.576411	1.044191
SPATA6L	0.094368957	0.777203	0.578464	1.044221
HIST1H2BO	0.094829614	1.288097	0.957072	1.733615
PSMG3	0.095194653	1.286844	0.95692	1.730516
ZNF714	0.095890729	0.77686	0.577121	1.045726
AC012651.1	0.095940407	0.77514	0.574318	1.046183

ASAP1	0.095990489	1.286315	0.956309	1.730201
SUSD6	0.096052409	0.776983	0.577238	1.045848
ZNF276	0.096711009	0.776862	0.576702	1.046492
CIRBP	0.096946966	0.77772	0.57797	1.046504
STEAP2	0.097058305	1.283976	0.955715	1.724986
MCCC1	0.09723178	0.77934	0.580454	1.046373
SDR39U1	0.097388635	0.7779	0.578035	1.046871
UFSP1	0.098774206	0.778613	0.578485	1.047976
C7orf49	0.098918717	1.283345	0.954237	1.72596
ZNF182	0.099733694	0.772055	0.567385	1.050554
PCF11	0.100092859	0.778683	0.577928	1.049175
FKBP2	0.100161813	1.283158	0.953224	1.727292
TUBB6	0.100378788	1.280415	0.953436	1.71953
LGALS8	0.101046508	0.780917	0.581087	1.049466
PRR19	0.101061123	1.280815	0.952814	1.721729
PYGL	0.101367264	1.284938	0.951961	1.734385
ZNF280D	0.101670838	0.780255	0.579692	1.050209
ZNF23	0.101766128	0.780288	0.579698	1.050287
SLC25A14	0.101832292	0.775727	0.572243	1.051568
ZNF75D	0.101888958	0.773564	0.568713	1.052203
RAB27B	0.102030433	1.278108	0.952415	1.715177
DCP1A	0.102145279	0.780103	0.579204	1.050683
ZMAT3	0.102329193	0.782869	0.58364	1.050108
LIMK1	0.102351039	1.280656	0.951774	1.723183
SNCAIP	0.102404659	0.781735	0.581743	1.05048
STXBP2	0.102771696	0.782157	0.58225	1.050698
AC134669.2	0.102887655	0.780041	0.578732	1.051377
RAB11FIP5	0.102937862	1.280112	0.951373	1.722443
TMEM41A	0.104085109	1.277008	0.950909	1.714939
FAS	0.104620299	0.783288	0.583187	1.052047
GGT7	0.104685212	0.783684	0.583805	1.051995
ZNF414	0.104763629	0.783009	0.582657	1.052253
KLF16	0.10498325	1.275403	0.950432	1.711488
FGL2	0.105102286	0.780277	0.578009	1.053327
TMEM127	0.105780169	1.276072	0.949686	1.71463
ZNF540	0.105894223	0.776605	0.571618	1.055102
SOCS4	0.106837994	1.274134	0.949147	1.710395
GSK3B	0.106963267	1.276172	0.94872	1.716644
PUS7L	0.107202234	1.273385	0.948978	1.70869
DEXI	0.107216031	0.785209	0.585072	1.053806
METTL3	0.10726957	0.783481	0.582195	1.054357
KIFC2	0.108077802	0.784066	0.582764	1.054904
ZNF253	0.108142968	0.784729	0.583826	1.054766
ZNF44	0.108597082	0.782182	0.579404	1.055928

AP3B1	0.108782694	1.272558	0.947861	1.708481
FBXO22	0.108852082	1.275894	0.947255	1.718551
KRBOX4	0.108858686	0.784494	0.583088	1.055469
MRI1	0.10886616	0.785277	0.584379	1.055242
ANGPTL5	0.108946593	0.786284	0.586006	1.055011
KIF1B	0.109020648	0.786037	0.585561	1.05515
AL365205.1	0.10916089	0.785446	0.584514	1.055451
ATP6V1G2	0.109409858	0.785014	0.583678	1.0558
RPA4	0.110453528	1.272452	0.946563	1.710541
SPATA5	0.110547469	1.277582	0.94562	1.726081
FAM3C	0.110926645	1.272238	0.946228	1.710571
CTHRC1	0.111230052	1.272353	0.94597	1.711346
ZNF821	0.111431242	0.785609	0.58368	1.057397
IGF2BP2	0.111889706	1.271343	0.945628	1.70925
HIST1H4D	0.112154758	1.270978	0.945484	1.708526
SHMT2	0.112207096	1.271874	0.945288	1.711293
CALCOCO1	0.113243335	0.787358	0.58571	1.058428
UBC	0.113456565	1.270493	0.944557	1.708897
MRPL21	0.113944221	1.269477	0.94436	1.706522
MEF2C	0.114467788	0.788491	0.587013	1.059123
ASB16	0.114514496	0.788613	0.587193	1.059124
ITSN1	0.114751853	1.266935	0.944196	1.699991
HES4	0.114986755	1.267543	0.943906	1.702146
SSPN	0.115229306	1.268356	0.943572	1.704931
VPS8	0.115356447	1.26934	0.943296	1.70808
RPS6KA4	0.115369051	1.266797	0.943749	1.700425
TMTC3	0.115482368	1.274032	0.942346	1.722466
HIST1H4E	0.11593413	1.266169	0.943433	1.699308
SMIM18	0.116495394	1.26782	0.942701	1.705068
C6orf163	0.116559332	1.266468	0.942902	1.701069
ZNF417	0.116688399	0.785106	0.580311	1.062176
INCA1	0.11683517	0.78856	0.585998	1.06114
HACD3	0.117133668	1.267037	0.942359	1.703579
OSTN	0.117623477	1.2649	0.942388	1.697784
SLMAP	0.117856347	1.265708	0.942059	1.700547
SUGP1	0.117924097	0.788432	0.585267	1.062121
NISCH	0.118005995	0.788195	0.584832	1.062273
UVSSA	0.118323936	0.790328	0.588256	1.061815
MAN2C1	0.118817917	0.790062	0.587576	1.062328
TRABD	0.118928003	0.791242	0.589506	1.062015
MPL	0.118956452	0.789644	0.586808	1.062591
ZNF83	0.119826237	0.790299	0.587499	1.063105
ARL13B	0.12039376	0.792291	0.590585	1.062887
RABL2A	0.120970036	0.791429	0.588862	1.063678

DIP2B	0.121003458	1.267792	0.939275	1.711208
CARF	0.121109985	0.791402	0.588751	1.063806
NEIL1	0.121808901	0.791457	0.588517	1.064377
TSPYL2	0.121817077	0.78914	0.584615	1.065217
AL353588.1	0.122143005	0.791745	0.588846	1.064556
TET2	0.122148125	0.791538	0.588495	1.064635
CES4A	0.12233639	0.791636	0.588572	1.064759
ARHGAP10	0.122438401	1.262878	0.93917	1.698159
COL5A1	0.122611999	1.26258	0.9391	1.697484
NRL	0.122652103	0.791285	0.587833	1.065153
VCL	0.122857848	1.262947	0.938844	1.698935
MYCBP2	0.123040924	0.792806	0.59022	1.064927
TLR4	0.123088996	0.791766	0.588442	1.065346
PINK1	0.123278623	0.793604	0.59146	1.064836
AVL9	0.123974649	1.2616	0.938289	1.696316
ACTR8	0.124098363	0.793991	0.591736	1.065377
SCRN2	0.124232539	0.793284	0.590476	1.06575
ANTXR2	0.124737312	1.260314	0.93799	1.693398
ACAD11	0.125243491	0.791663	0.587264	1.067203
KRBA2	0.125366045	0.79334	0.590046	1.066677
MRPL27	0.125903796	1.258268	0.937561	1.688677
PET100	0.126093274	0.794918	0.59239	1.066688
APH1B	0.12658575	0.79529	0.592795	1.066955
PCP2	0.126714316	0.793133	0.589073	1.067882
CLHC1	0.127273356	0.794171	0.590576	1.067952
PICK1	0.127649748	0.794618	0.591163	1.068092
ANKRD13D	0.127849052	0.795229	0.592113	1.068022
CC2D1A	0.12797372	0.791101	0.585048	1.069725
ZNF557	0.128150306	0.79093	0.584677	1.069941
SUMO3	0.128388968	1.259227	0.935548	1.694891
TTC32	0.128664781	0.79557	0.59232	1.068563
FAM196B	0.128968692	1.257057	0.935596	1.688969
JPT1	0.129018133	1.257339	0.935499	1.689901
ABCF2	0.129450916	1.258637	0.934904	1.694469
PNISR	0.130021089	0.793038	0.587389	1.070686
MRS2	0.130083616	0.796307	0.592931	1.069441
PCGF1	0.130108921	0.797416	0.594816	1.069024
ZNF345	0.130195583	0.796139	0.592593	1.0696
BRCA2	0.130316073	1.257964	0.934424	1.693529
C19orf18	0.130349623	0.795542	0.591503	1.069964
ACTR3	0.130562202	1.255431	0.934805	1.686026
OR5K2	0.130823601	1.255383	0.934628	1.686219
NPIPA1	0.130846064	0.79566	0.591478	1.070326
KCNS2	0.131807993	0.795365	0.590536	1.071239

LSM4	0.131891538	1.255001	0.933949	1.686417
TBC1D17	0.132032814	0.795294	0.590314	1.071453
TCF19	0.132043057	1.258064	0.933156	1.696099
STRADA	0.132258553	0.796317	0.59196	1.071223
PANX1	0.132507992	1.261125	0.932134	1.706231
MBLAC1	0.133129273	1.255581	0.932935	1.689812
PALLD	0.133187196	1.255789	0.932846	1.690533
NR2C2	0.133477748	0.796999	0.592576	1.071944
PRKD3	0.133609263	0.79822	0.594611	1.071548
NCK1	0.133808539	1.253868	0.932841	1.685374
MZT2B	0.13393999	1.25424	0.932663	1.686695
MTMR8	0.134056491	0.793038	0.58554	1.074065
PPP3CA	0.134083108	1.253421	0.932749	1.684338
HAGH	0.13440641	0.798017	0.593904	1.07228
LLGL2	0.13454652	0.798604	0.59485	1.07215
AKAP8L	0.134584094	0.797091	0.592233	1.07281
PLAU	0.134736435	1.252033	0.932607	1.680864
ZNF292	0.135036073	0.798458	0.594378	1.072608
CCDC121	0.135152573	0.798393	0.594215	1.072729
ALKBH4	0.135174898	0.796186	0.590414	1.073674
ALX3	0.13547616	0.799645	0.596225	1.072466
GPR34	0.135599008	0.794504	0.587343	1.074734
PTPN22	0.136184706	0.797405	0.59205	1.073986
PTBP2	0.136370793	0.799241	0.595129	1.073358
ZDHHC21	0.136440957	0.798776	0.594295	1.073612
LAMTOR4	0.136708102	0.79978	0.595908	1.073401
SPHK1	0.136858377	1.252247	0.931064	1.684226
VTI1B	0.137251307	1.25064	0.931169	1.679717
UBE2Z	0.137490607	1.251249	0.930857	1.681917
ZNF625	0.137940193	0.79843	0.593027	1.074976
RNF44	0.137995855	1.249632	0.93089	1.677514
JMJD7-PLA2G4B	0.138327734	0.798573	0.5931	1.075228
CXCR2	0.138992734	0.798288	0.592312	1.075892
PEX16	0.139569581	0.800482	0.595846	1.075397
MICAL1	0.140152273	0.799833	0.594464	1.076151
RAB11B	0.140421478	0.800632	0.595728	1.076014
STXBP4	0.140484451	0.801427	0.597079	1.075712
PSMC2	0.14066943	1.251301	0.928623	1.686104
UBXN11	0.141258721	0.800043	0.594336	1.076948
ABHD14A	0.141298669	0.800013	0.594266	1.076994
CARD8	0.141361999	0.798444	0.591523	1.077748
SAC3D1	0.141602867	1.247267	0.928972	1.674619
STAM2	0.141626657	0.802308	0.598105	1.076229
TUBA1C	0.142652175	1.250584	0.927421	1.686354

CYLD	0.142785095	0.799222	0.592236	1.07855
BRI3	0.143047942	1.250101	0.927267	1.685332
MAP2K2	0.143635354	1.245131	0.928118	1.670426
NUBP2	0.143858138	0.803127	0.59855	1.077626
C16orf58	0.144203518	0.802908	0.598015	1.078
TTBK2	0.144823582	0.802873	0.597682	1.078507
CDA	0.144881464	1.251233	0.92571	1.691226
MAGEH1	0.144979901	0.795409	0.584669	1.08211
MGA	0.145010761	0.803246	0.598252	1.078483
CCNL2	0.145845277	0.802157	0.595985	1.079651
GNGT1	0.145964004	1.244289	0.926752	1.670625
UBE2D1	0.146041882	1.246316	0.926174	1.677117
C20orf96	0.147373614	0.802825	0.596481	1.080551
METTL17	0.148005301	0.804256	0.598709	1.080369
RELB	0.149077758	1.241232	0.925462	1.664743
BSG	0.15005794	1.243683	0.924148	1.673702
TRPM7	0.150128408	0.803696	0.596802	1.082313
NME3	0.150437907	0.806185	0.601044	1.081343
ZGPAT	0.150795679	0.80418	0.597361	1.082603
GPR87	0.150981687	1.243532	0.923567	1.674346
CHRM2	0.151169644	0.806723	0.601676	1.081649
MRNIP	0.151236302	0.80377	0.59645	1.083152
MTR	0.151948986	0.806557	0.601047	1.082335
RING1	0.152320517	0.80649	0.600768	1.082658
CALU	0.152533679	1.243665	0.922488	1.676664
KIDINS220	0.153305907	0.80716	0.601527	1.083089
BRMS1	0.153539311	1.240215	0.922769	1.666868
C8orf37	0.153775865	1.240908	0.922419	1.669365
ZNF680	0.15378802	0.806718	0.600539	1.083684
CENPL	0.154497598	1.24149	0.921777	1.672093
TBX6	0.15503703	1.238661	0.922213	1.663696
CRTC2	0.155273037	0.806491	0.599497	1.084955
VASP	0.155338629	1.237148	0.922442	1.65922
PARP8	0.155786219	0.807871	0.601721	1.084648
CLLU1	0.15604696	0.807074	0.600197	1.085259
CRLF1	0.156192858	0.807772	0.601371	1.085014
MRPL53	0.156399772	1.237178	0.921738	1.660569
SEMA3C	0.156683048	1.239745	0.92082	1.66913
ZNF133	0.156928963	0.805759	0.59749	1.086625
WASHC4	0.156957891	1.238811	0.920905	1.66646
DYNC2H1	0.156970196	0.807687	0.600888	1.085659
RSPH6A	0.157032348	0.805459	0.596915	1.086862
TMEM176A	0.157107638	0.809062	0.603271	1.085054
CEP95	0.157175998	0.806273	0.598292	1.086552

CBX7	0.157326101	0.80182	0.590376	1.088994
SMG9	0.157396308	1.236367	0.921319	1.659147
SNX3	0.157401711	1.237141	0.921093	1.661633
NT5DC2	0.157468863	0.809215	0.603389	1.085252
NUDT14	0.157922878	0.808896	0.602628	1.085766
PHF21A	0.158423071	0.808222	0.601216	1.086504
DNAJC13	0.158637176	1.236216	0.920553	1.660122
ANKRD12	0.158796291	0.809027	0.602489	1.086369
C19orf24	0.159250244	1.235761	0.920287	1.659379
GJA5	0.15954226	0.809956	0.603827	1.086452
FAM160A1	0.159566017	0.809251	0.60256	1.086843
EDIL3	0.1608356	0.810494	0.604239	1.087154
PTTG1IP	0.161064667	1.240648	0.917663	1.677312
ZNF814	0.161934743	0.808566	0.600329	1.089034
SPSB3	0.161937625	0.810121	0.603104	1.088197
SHARPIN	0.162018523	1.23516	0.918667	1.660689
CCNK	0.162119303	1.237237	0.917982	1.667521
ZCRB1	0.162463996	1.236513	0.917974	1.665587
ZNF517	0.162756307	0.810445	0.603338	1.088647
MTF1	0.16298677	0.810549	0.603426	1.088766
WBP11	0.163951132	1.237715	0.916642	1.671251
MRPS34	0.164050038	1.23589	0.917131	1.665437
LIN7B	0.164169364	0.81126	0.604199	1.08928
ZBTB44	0.164224586	0.811156	0.603989	1.089379
ADAT1	0.164471293	0.812307	0.605953	1.088934
CA1	0.16572413	0.812555	0.605873	1.089744
C1orf210	0.165916588	0.811038	0.603064	1.090735
ADCY9	0.166071833	0.811208	0.603303	1.090758
NBAS	0.166147834	0.810752	0.602453	1.091071
RBMS1	0.16621431	1.235	0.916001	1.665089
MYO9A	0.166356873	0.812495	0.605499	1.090256
BUD23	0.166545916	1.234974	0.915795	1.665394
RNF167	0.166830497	1.231357	0.916734	1.65396
CGNL1	0.167002468	0.810462	0.601571	1.091888
SH3GLB1	0.167048027	1.233633	0.915887	1.661613
PLOD3	0.167378156	1.229827	0.916863	1.649618
SP2	0.167653896	0.811476	0.603119	1.091814
DENND4A	0.16766586	0.810898	0.602075	1.09215
CLDN7	0.167707568	1.230712	0.916377	1.652871
TBCEL	0.168098546	0.812307	0.604428	1.091681
LRRC26	0.168505567	0.813227	0.605917	1.091467
TSSK3	0.168625706	0.810329	0.600648	1.09321
NUMBL	0.168909764	1.242333	0.911965	1.692379
SLC12A6	0.169259604	0.812596	0.604461	1.092397

ARMC10	0.169326668	1.231557	0.91508	1.657485
ZFX	0.169527317	1.231508	0.914968	1.657558
GNG12	0.17063566	1.227823	0.915442	1.6468
TSPAN14	0.171078855	1.228159	0.915055	1.648398
PARVB	0.17205199	1.228615	0.914295	1.650994
TMEM8B	0.172130387	0.811934	0.602062	1.094965
RNF213	0.172791742	1.228261	0.913944	1.650674
AP002360.1	0.173315392	0.814748	0.606663	1.094205
KDM7A	0.17352043	0.815052	0.607131	1.094179
KLHDC4	0.173826202	0.814945	0.606808	1.094472
FGF1	0.17399619	0.815593	0.607918	1.094215
MED25	0.174286143	0.815071	0.606846	1.094742
HBP1	0.175315633	0.816064	0.608228	1.09492
C15orf40	0.175365574	1.225289	0.913313	1.643832
SND1	0.175713934	0.814605	0.605406	1.096094
FAM126B	0.175930615	0.816526	0.608815	1.095101
SPATS2L	0.17647389	1.224938	0.912742	1.643919
CYP7B1	0.176717655	1.22721	0.911829	1.651675
ZNF654	0.176731408	0.816459	0.608362	1.095737
PKIG	0.176786874	0.813385	0.602742	1.097644
LIN54	0.177134806	1.225884	0.912013	1.647774
BEX2	0.177881825	0.81527	0.605716	1.097321
ZNF226	0.177933789	1.222963	0.912505	1.639047
TMEM185B	0.178113691	1.22646	0.911209	1.650779
ARPC1B	0.178370056	1.224465	0.911726	1.644478
EDEM3	0.178459339	1.223432	0.912022	1.641171
ZNF484	0.178736588	0.815367	0.605539	1.097904
SLC2A13	0.178744298	1.224847	0.911364	1.646159
C19orf54	0.178933276	1.224752	0.911279	1.646056
PTPN4	0.179037844	0.815924	0.606432	1.097787
CPA2	0.179144227	0.817264	0.608838	1.09704
TAS2R19	0.17937109	1.223472	0.911446	1.642319
LAMB1	0.180346257	1.22287	0.911052	1.641411
LARP4	0.180394319	1.223137	0.91093	1.642347
SMIM22	0.180423483	1.224504	0.910441	1.646906
GSTCD	0.180641618	1.224287	0.910381	1.646432
RPAIN	0.180686795	0.817763	0.609118	1.097876
VPS13C	0.181299569	0.815347	0.60444	1.099846
BOLA1	0.181327905	1.221873	0.910794	1.639199
GPR61	0.181423888	0.817709	0.608716	1.098457
NR2C2AP	0.182427626	0.81915	0.610954	1.098293
ZFP91	0.18292392	1.221007	0.91012	1.638089
MFSD8	0.18296733	0.818777	0.610045	1.098927
NR1H2	0.18297487	0.818821	0.610125	1.098904

TRIM52	0.183035937	0.81519	0.603433	1.101258
MFSD14B	0.183749502	1.223014	0.908907	1.645672
ARID1B	0.183825538	0.81796	0.608189	1.100083
C15orf61	0.183864464	0.81902	0.610126	1.099435
GOPC	0.183919753	1.22149	0.909341	1.640791
ASPSCR1	0.183985599	0.818325	0.608796	1.099968
ARAP2	0.183989648	1.220825	0.909533	1.638656
REL	0.184107214	0.817479	0.607189	1.1006
TRPS1	0.18445802	1.220312	0.90943	1.637468
STYX	0.184489394	1.222524	0.908625	1.644863
E4F1	0.184554632	0.818004	0.607971	1.100597
MESP1	0.184774157	0.819384	0.610425	1.099873
CNOT1	0.184829634	0.819747	0.611073	1.099682
LRRC8A	0.185021616	1.220016	0.909192	1.637101
C14orf93	0.185368339	1.220617	0.908766	1.639482
EEA1	0.185562324	0.818525	0.608517	1.10101
SRMS	0.185837834	0.81979	0.610741	1.100396
HIST1H1E	0.186762309	1.218509	0.908677	1.633985
ATP5D	0.186776107	1.219593	0.908277	1.637615
ODF3B	0.186817258	0.819609	0.610006	1.101235
VKORC1L1	0.18708216	0.820494	0.611536	1.100853
DNPH1	0.187417895	1.219142	0.908051	1.636811
TFEC	0.188399774	0.816207	0.60308	1.104654
NTAN1	0.188637228	1.218804	0.907435	1.637012
CLDN4	0.189970963	1.216851	0.907347	1.631929
EMC9	0.190252562	1.219024	0.906375	1.63952
GOLIM4	0.190339798	1.217962	0.906715	1.63605
TPM4	0.190348948	1.21706	0.907043	1.633038
SPTLC1	0.190637594	1.221101	0.905375	1.64693
THAP5	0.190795704	0.822136	0.613075	1.102487
ZNF19	0.190819371	0.821148	0.611226	1.103165
RBM5	0.191550699	0.819112	0.607147	1.105075
CPT1B	0.191568828	1.217764	0.906047	1.636726
SBDS	0.191678996	1.217904	0.905928	1.637316
DLD	0.191733166	1.223264	0.903903	1.655461
INHBA	0.191904872	1.217923	0.905785	1.637626
ZFAND2B	0.191938099	0.822281	0.612883	1.103223
RNF10	0.192842818	1.215165	0.906256	1.62937
NSMCE4A	0.192948992	0.822807	0.613456	1.103604
DIAPH1	0.19296281	1.216007	0.905867	1.632328
ELK3	0.193178033	1.215539	0.905914	1.630988
NETO1	0.193783297	1.2167	0.905113	1.635551
UBE2C	0.194192172	1.21855	0.904167	1.642246
UBE2Q2	0.194250897	1.215938	0.905121	1.633488

GREM1	0.194440351	1.21757	0.904388	1.639204
HNRNPA1	0.194557827	1.217104	0.904494	1.637757
ZNF467	0.194831054	1.214285	0.905404	1.628543
ADAM20	0.194875657	0.822438	0.611984	1.105263
NCOA2	0.195015259	1.214758	0.905113	1.630333
ALKBH6	0.195316059	1.214773	0.904928	1.630706
AC006254.1	0.195370728	0.818904	0.605199	1.108073
ZFP1	0.195856493	0.823984	0.614483	1.104911
SLC24A1	0.19646681	0.823735	0.61377	1.105527
ITPR2	0.19744215	0.822316	0.610717	1.107229
RNF169	0.197609761	0.82339	0.612662	1.106599
TRMT10B	0.197681743	0.823148	0.612179	1.106822
ANTXR1	0.197799661	1.213166	0.904071	1.627937
RALB	0.19806124	1.216717	0.902536	1.640268
C6orf226	0.19828705	0.825197	0.615784	1.105824
MPP6	0.198689504	1.213752	0.903314	1.630876
CTDSP1	0.19876785	1.213039	0.903547	1.628541
BLOC1S3	0.19944828	1.212127	0.903502	1.626174
LMNA	0.200109372	1.213699	0.902491	1.632222
CEP41	0.200574941	1.212671	0.902621	1.629222
ELF2	0.201174375	0.825744	0.615657	1.10752
CCDC188	0.201528451	0.824221	0.612643	1.108869
LCA5L	0.201654513	0.826059	0.61606	1.107641
CLIC4	0.202806425	1.212226	0.901478	1.630091
UBE2J1	0.202930465	0.825657	0.614789	1.108852
PIK3R4	0.203189399	1.211966	0.901356	1.629612
JAK2	0.20332154	0.82377	0.61107	1.110508
HTATSF1	0.203790963	1.20958	0.901964	1.622111
CCDC36	0.203807582	0.825577	0.614286	1.109545
TRIP12	0.204661531	1.214002	0.899663	1.63817
DST	0.20515646	1.209295	0.901281	1.622574
PTAR1	0.205738493	0.825819	0.613967	1.11077
PIM3	0.205802471	1.210555	0.900388	1.62757
DNAJB2	0.206500543	0.827476	0.616809	1.110095
LPGAT1	0.206811461	1.21185	0.899263	1.633094
NRIP1	0.207128849	1.208643	0.900396	1.622418
HIST1H4C	0.207592842	0.82802	0.617409	1.110476
LRRC15	0.20781353	1.209686	0.899565	1.626721
RAPSN	0.207858915	0.823305	0.608357	1.1142
CHRNG	0.207921091	0.825373	0.612246	1.112691
HPS1	0.207984281	0.82826	0.61771	1.110577
RSF1	0.208125316	1.207815	0.900158	1.620623
ARID1A	0.20869847	0.827484	0.615946	1.111672
LRRTM2	0.208751402	0.827936	0.616787	1.11137

SORBS3	0.208862081	0.82722	0.615377	1.111988
CD320	0.208969833	0.828205	0.617212	1.111325
TMEM250	0.20936078	1.209116	0.898895	1.626398
DCXR	0.20947678	0.828568	0.617704	1.111415
ANKRD46	0.209654308	0.827942	0.616437	1.112015
EP300	0.2097237	0.827407	0.615389	1.11247
SLC35B1	0.210000398	0.828826	0.617987	1.111596
POLR2L	0.210274108	1.206491	0.899463	1.618322
ERCC4	0.210483673	0.828926	0.617986	1.111866
GOLGA6L10	0.210528296	0.82845	0.617059	1.112259
FLYWCH2	0.21067347	0.826424	0.613136	1.113906
SNX1	0.211128164	0.828949	0.617775	1.11231
SLC39A9	0.211363379	1.209445	0.897585	1.62966
ACAP3	0.211375706	0.828442	0.616706	1.112874
AP1G2	0.211486045	0.826094	0.612183	1.114751
SLC35E2B	0.211883927	0.829174	0.617905	1.11268
ATP11C	0.212327372	1.206956	0.898076	1.622071
CLPP	0.212685463	1.20568	0.898412	1.618036
RAD23B	0.212774423	1.20832	0.897235	1.627263
PURB	0.213102073	1.205475	0.898259	1.617762
POC1B-GALNT4	0.213744753	0.829468	0.617728	1.113787
ZBTB21	0.213893268	0.829809	0.618323	1.113629
RPS24	0.214039327	1.205278	0.897803	1.618058
AC040162.1	0.215236559	1.205792	0.896889	1.621086
ATAD2B	0.21529646	0.829681	0.617521	1.114734
CLCN3	0.215798239	1.206057	0.896449	1.622595
PLXNC1	0.215958131	0.827338	0.612762	1.117053
PPP2R3A	0.216019783	0.830485	0.618779	1.114623
SPRYD4	0.216289936	0.830659	0.619008	1.114678
PEA15	0.216314085	1.204209	0.896955	1.616715
GNL3L	0.216388087	1.203143	0.897378	1.613091
ZBTB40	0.216582897	0.829158	0.616004	1.11607
ZNF689	0.216754695	0.831449	0.620346	1.114389
KIAA1191	0.216893246	1.20409	0.896674	1.616899
PDIA3	0.217318903	1.204688	0.896167	1.619422
UBAP1L	0.217463666	0.828945	0.615243	1.116876
ZNF775	0.217723741	0.830401	0.617941	1.115908
TRAF6	0.217784631	0.83021	0.617549	1.116103
VCPIP1	0.217824041	1.205179	0.89566	1.62166
SLC2A14	0.21787133	1.20287	0.896648	1.613674
RAB9A	0.218056084	1.205745	0.895278	1.623876
TAB2	0.218136211	1.203977	0.896008	1.617799
MRGPRX3	0.218280846	1.202796	0.896446	1.613836
SAMD11	0.21852503	1.203284	0.896091	1.615786

SPDYE5	0.218542163	0.83112	0.619005	1.115922
LRRC8C	0.218833036	0.831155	0.618956	1.116102
WDFY1	0.21929065	1.202817	0.895859	1.614951
XRN2	0.219564269	1.201746	0.896178	1.611504
C19orf53	0.219680402	1.203189	0.89547	1.616654
ESRRA	0.219933111	1.202181	0.895774	1.613397
ARSA	0.220563904	0.832202	0.620297	1.116497
TMX4	0.22146471	0.831822	0.619205	1.117445
GGA1	0.221472952	0.830293	0.616243	1.118692
TMEM106B	0.221618081	1.206063	0.893071	1.628749
FANCM	0.2216726	1.206169	0.892992	1.629178
KHDRBS2	0.221765167	0.828411	0.612498	1.120437
SDF4	0.222016412	1.204009	0.893761	1.621953
SLCO5A1	0.222453703	1.201206	0.894773	1.612585
SZRD1	0.223173813	0.831562	0.618024	1.11888
SRSF8	0.223435058	0.832941	0.6206	1.117937
AQR	0.224767523	1.205243	0.891614	1.629193
PUDP	0.225009203	1.201593	0.893139	1.616576
COPS6	0.225172063	1.202369	0.892691	1.619475
CTSF	0.225483826	0.831819	0.617608	1.120327
ZNF624	0.225609095	0.834151	0.6221	1.118482
SLC25A45	0.225816622	0.832677	0.619144	1.119853
AUP1	0.225835285	1.200354	0.893236	1.613068
RAP2C	0.226139093	1.199069	0.893656	1.60886
JSRP1	0.226294113	0.833402	0.620369	1.11959
GPR108	0.226424595	0.834094	0.621668	1.119107
ACADVL	0.226520198	1.199182	0.893388	1.609645
RC3H1	0.22657491	0.833985	0.621396	1.119304
PPIL1	0.226633725	1.2008	0.892576	1.615459
HIST1H2AI	0.226684407	1.198552	0.893587	1.607597
ANKHD1	0.226878516	0.831703	0.616829	1.121428
MSH5	0.226893416	0.833272	0.61988	1.120125
AGL	0.226998526	1.198586	0.893394	1.608034
ANKDD1A	0.227134978	0.830663	0.614707	1.122488
AC093155.3	0.227290439	0.834712	0.622536	1.119203
SLC25A27	0.227662618	0.832259	0.617599	1.121527
CDPF1	0.22771643	0.834925	0.622784	1.119326
ZNF621	0.227970776	0.834219	0.621303	1.120099
PPP6R2	0.228367854	0.833149	0.619057	1.121282
SDCCAG3	0.228811806	1.197675	0.892795	1.606667
CTU1	0.229067232	1.198179	0.892415	1.608705
HCFC2	0.229196055	0.833177	0.618785	1.121851
MST1	0.229469775	0.834132	0.620544	1.121237
DPM2	0.230172952	0.834847	0.621667	1.12113

CCDC134	0.230859434	1.198248	0.89137	1.610778
VCPKMT	0.231047396	0.835001	0.621625	1.121619
G3BP2	0.231120845	1.197392	0.891627	1.608014
AGTPBP1	0.231411822	0.835265	0.622	1.121652
IP6K2	0.231440557	0.83393	0.619371	1.122816
LCN12	0.231732076	0.835316	0.621974	1.121835
EXOC5	0.231937196	1.1982	0.890783	1.61171
RASA1	0.232034436	1.19585	0.891848	1.603476
C10orf113	0.232316673	1.196273	0.891487	1.605262
MTERF2	0.232475487	0.835583	0.622207	1.122132
PIGT	0.232644304	1.196406	0.89124	1.606063
ZNF91	0.233240063	0.83489	0.620544	1.123274
SNRPA	0.233437453	1.200691	0.888742	1.622134
RAB3GAP1	0.233820761	1.197914	0.889854	1.612621
LDOC1	0.233863915	1.196178	0.890664	1.60649
CA5B	0.234003048	0.832935	0.616407	1.125524
COA4	0.234475404	1.197349	0.889756	1.611278
SRSF4	0.23467401	0.836023	0.62221	1.123309
RSG1	0.235022138	0.837209	0.624416	1.122519
PHYKPL	0.23507661	0.834601	0.619252	1.124839
NAA35	0.235099308	0.83481	0.619655	1.124672
CNKSR1	0.235318532	0.836333	0.62257	1.123494
GJB7	0.235375361	1.194705	0.890529	1.602778
CSGALNACT2	0.235445802	1.196494	0.889622	1.609221
LAMA2	0.235519995	0.836391	0.622606	1.123586
WDR83	0.23583323	0.835292	0.620315	1.124773
LRP12	0.235871118	1.194762	0.890224	1.60348
POGLUT1	0.236103848	0.836043	0.621688	1.124306
ZNF347	0.236329613	0.835812	0.621144	1.12467
MID2	0.237522126	0.837214	0.623446	1.124278
TOX3	0.23755614	1.195618	0.888862	1.608239
INTS6L	0.237664053	0.8313	0.611747	1.129649
GPR22	0.23767823	0.837762	0.624471	1.123903
SOAT1	0.237989544	1.195749	0.888554	1.609147
CLIC1	0.238192841	1.193994	0.889304	1.603077
ANKRD17	0.238302943	0.836358	0.621446	1.125592
HIST2H2BF	0.238496572	1.193372	0.889441	1.601158
PATZ1	0.238784265	0.837399	0.623319	1.125005
ST7L	0.23896213	1.19385	0.888945	1.603337
TEX261	0.239029845	0.838063	0.62454	1.124587
ARSD	0.239104132	0.838362	0.625105	1.124372
AC022335.1	0.239381627	1.192751	0.889256	1.599826
EXOC6B	0.239423987	1.192787	0.889215	1.599997
SPIDR	0.239713075	0.838137	0.624421	1.125001

FBRS	0.240109634	0.838232	0.624453	1.125196
RBM6	0.240582014	0.835532	0.618914	1.127965
COL5A2	0.240597169	1.194794	0.887562	1.608377
SHPRH	0.240648939	0.835314	0.618458	1.12821
CHSY1	0.240964376	1.192332	0.888586	1.599909
DNAJC4	0.240972572	0.839066	0.625777	1.125053
TVP23C	0.24123617	0.837999	0.623549	1.126201
FOXB1	0.241378042	0.839219	0.625924	1.125199
DMTF1	0.241715901	0.838102	0.623568	1.126447
PTBP3	0.242030023	1.197766	0.885272	1.620568
RBM15	0.242561626	1.191035	0.888353	1.596847
ARHGAP18	0.242562839	0.837969	0.62297	1.127168
GOLGA8B	0.242761501	0.83821	0.623371	1.12709
ADGRE1	0.242791509	0.838862	0.62466	1.126516
PREPL	0.243354935	0.839859	0.626431	1.126004
HIST1H1D	0.243449447	1.191954	0.887396	1.601038
RMND5B	0.243971268	0.839731	0.625935	1.126553
WNT4	0.245080042	0.84006	0.62616	1.127029
KIAA0319L	0.245139055	0.84006	0.626137	1.127071
SIX2	0.245231866	0.840151	0.626282	1.127053
TMEM256	0.245531215	1.192111	0.886158	1.603697
USE1	0.245678815	0.839516	0.624838	1.127953
TMEM132A	0.246303484	1.190156	0.886733	1.597405
TIMM10B	0.246318905	0.838414	0.622384	1.129429
WBP1	0.246335406	0.840311	0.626174	1.127679
HIST1H2BI	0.246405334	0.840156	0.625836	1.127871
HIST1H2BM	0.246576618	1.189153	0.887099	1.594054
RAPGEF2	0.246745544	0.840076	0.625543	1.128185
WDPCP	0.246821191	0.840106	0.625572	1.128211
ECHDC2	0.246918966	0.838909	0.623137	1.129395
CTC1	0.247120421	0.839493	0.624227	1.128993
POLR2M	0.247156013	1.194779	0.883882	1.61503
MOB1A	0.247183167	1.193192	0.884682	1.609288
C5orf42	0.247226197	0.840465	0.626134	1.128162
CDK11A	0.247751292	1.189322	0.886365	1.59583
C9orf142	0.247806047	0.840122	0.625221	1.12889
USP50	0.247912776	0.84065	0.626239	1.128471
CHID1	0.247944136	0.841025	0.62698	1.128143
THY1	0.247993496	1.188919	0.886441	1.59461
SLC10A3	0.248143345	1.189415	0.886101	1.596554
MLYCD	0.248864039	0.840438	0.625441	1.12934
ABCA6	0.249212588	0.835619	0.615668	1.134148
SFRP2	0.249908425	1.188694	0.885504	1.595696
ZNF644	0.250357621	1.188648	0.885281	1.595972

UBE2W	0.250394766	0.840168	0.6243	1.130677
CUL4B	0.250861725	1.189375	0.884621	1.599119
PTPN23	0.251086079	0.84123	0.626169	1.130156
XPO4	0.251892559	1.188213	0.884665	1.595914
MIIP	0.252585053	0.842018	0.627174	1.130458
ZNF580	0.253572371	0.841866	0.626482	1.131298
VPS9D1	0.253619826	0.842229	0.627199	1.130982
RBM39	0.2538899	0.841885	0.626396	1.131504
LYST	0.254412088	0.840491	0.623377	1.133223
NRAP	0.254590699	0.841275	0.62489	1.132589
NKTR	0.255541616	0.841507	0.624988	1.133037
NOL3	0.256087703	1.185435	0.883852	1.589922
TRPT1	0.256389943	0.843658	0.629018	1.131538
HIST1H2BG	0.256430825	1.186012	0.883353	1.59237
COASY	0.256887751	1.189678	0.881119	1.606292
THAP9	0.257453302	0.843987	0.629276	1.131959
AKAP9	0.257465255	0.843599	0.628482	1.132347
PARVA	0.25775142	0.84421	0.629614	1.131948
PSMD4	0.257787066	1.185767	0.882744	1.59281
PPP1R15B	0.257801788	1.186518	0.882326	1.595583
SAPCD1	0.258087715	0.843235	0.627498	1.133143
PIN1	0.259460196	0.84415	0.628827	1.133203
ZNF157	0.259542606	0.843643	0.627762	1.133763
AD000671.2	0.259573508	0.842413	0.625248	1.135006
CLIP2	0.260240742	1.183518	0.88264	1.586962
SUMO4	0.260548612	1.183296	0.882595	1.586445
ANGPTL2	0.261211014	1.184918	0.881336	1.593072
TAS2R13	0.2620064	0.845401	0.630397	1.133735
CCDC124	0.262370604	1.18338	0.881559	1.588535
DUSP28	0.262611377	0.845598	0.630565	1.133959
RFX7	0.263253847	1.182442	0.881603	1.58594
TAS2R46	0.26327449	1.185094	0.880108	1.595768
PRDX4	0.26350417	1.184251	0.880454	1.592871
AP1S1	0.263877751	1.182874	0.881022	1.588146
SLC27A5	0.263980304	1.182356	0.881258	1.586329
ARCN1	0.264033648	1.184008	0.880301	1.592496
ING3	0.264093726	0.845524	0.62984	1.135069
DRAP1	0.264657371	1.181974	0.881106	1.585578
SEC31B	0.264767937	0.843833	0.626111	1.137265
PCBP2	0.264918041	1.184373	0.879612	1.594725
TMEM50A	0.26593452	0.846087	0.630282	1.135784
STARD3NL	0.266318886	1.183096	0.879568	1.591369
CHD9	0.266918731	0.844229	0.626081	1.138387
SUCO	0.267339479	1.180999	0.880208	1.584578

SRFBP1	0.267447355	1.181358	0.879944	1.586017
PAM16	0.267826329	1.180898	0.880003	1.584676
IFITM5	0.267881718	0.846934	0.631272	1.136274
SSBP4	0.268386288	0.844438	0.625936	1.139215
DPH7	0.268770284	0.846904	0.630865	1.136926
HADH	0.26898278	0.84749	0.631993	1.136467
HSF4	0.269108324	0.84601	0.628887	1.138093
CREBZF	0.269456899	0.845974	0.628679	1.138375
DENND1B	0.269515353	0.846243	0.62921	1.138137
C3orf38	0.269754249	0.846752	0.630168	1.137774
UGT3A1	0.270078159	0.847466	0.631519	1.137256
ZNF524	0.270648921	1.179309	0.879396	1.581506
NANOS3	0.271062518	0.847737	0.631699	1.13766
FSTL1	0.271131761	1.179591	0.878972	1.583025
MISP3	0.271615924	0.847362	0.630706	1.138441
ZNF124	0.271929119	0.848011	0.63193	1.137978
KIAA1429	0.272569009	1.179656	0.878157	1.584668
FAM126A	0.272613764	1.179675	0.878122	1.584781
LIN9	0.272823971	1.180611	0.87746	1.588497
HIST1H2AD	0.273034285	1.178893	0.878354	1.582266
ZNF717	0.273289758	0.848457	0.632329	1.138457
GATD1	0.273778916	0.847751	0.630672	1.139548
CASP2	0.273949956	1.182723	0.875609	1.597553
PLA2G4B	0.274168744	0.848005	0.631048	1.139552
ZNF213	0.274378341	0.848312	0.631606	1.139371
LATS1	0.274528643	1.177624	0.878298	1.578959
NXF1	0.27522324	0.847312	0.629199	1.141035
MCFD2	0.276244509	1.180217	0.875834	1.590386
THBS2	0.276720005	1.178511	0.876591	1.584421
UTP14C	0.27691056	0.849741	0.633602	1.13961
DDR2	0.277341946	0.848677	0.631215	1.141059
RSBN1	0.277383317	0.849423	0.632755	1.140282
MTMR6	0.277697904	0.848969	0.631686	1.140993
MAPRE1	0.277765991	1.178559	0.875997	1.585624
RNF133	0.278165045	0.850096	0.63386	1.140099
NUP85	0.278264639	1.177435	0.876403	1.581866
KIAA2026	0.27873366	0.849976	0.633388	1.140627
RASSF7	0.278747567	0.849788	0.632989	1.14084
RCHY1	0.27882218	0.849959	0.633319	1.140706
NOC3L	0.279049955	1.178315	0.875449	1.585958
KRIT1	0.279451657	0.850225	0.633632	1.140856
GLIPR1L1	0.280715635	0.85032	0.63334	1.141636
LIMS1	0.28084162	1.175267	0.876332	1.576174
ROGDI	0.280961156	0.849279	0.631062	1.142952

ING5	0.280998847	0.85076	0.634155	1.14135
AC005726.2	0.281060369	1.1752	0.876256	1.576132
BORCS8	0.281066578	0.849946	0.63242	1.142292
ATP6V0C	0.281220324	1.176593	0.875321	1.581556
PNKP	0.281659316	0.849668	0.631606	1.143015
MYDGF	0.281748205	1.175958	0.875425	1.579665
ERCC6L2	0.28178779	0.849623	0.631463	1.143155
UTRN	0.281806126	0.850696	0.633708	1.141984
ZNF33A	0.282085683	0.849967	0.632067	1.142985
OR10AD1	0.282736966	0.850815	0.633596	1.142504
FER	0.283117237	1.174596	0.875527	1.575822
TMCO6	0.28334812	1.176022	0.874525	1.581462
HIST1H2AE	0.283872689	1.175189	0.874757	1.578803
PUS7	0.284237621	1.174935	0.874718	1.578193
AIFM2	0.284585179	1.174894	0.874557	1.578373
SMUG1	0.284691412	1.176009	0.87381	1.582721
AMELX	0.286372426	1.17332	0.874581	1.574101
RCN2	0.288879485	1.173857	0.872903	1.578572
ULBP2	0.289343655	1.172012	0.873821	1.571962
SAT2	0.289380681	0.848776	0.626709	1.149531
TRMU	0.289811259	1.171734	0.873749	1.571344
EPM2AIP1	0.289857749	0.853075	0.635612	1.144939
TARBP1	0.289908297	0.85287	0.635156	1.145209
ERBIN	0.290207607	1.17134	0.873789	1.570217
CHTF18	0.290264678	1.171428	0.873702	1.570607
CCDC92	0.290540076	0.85332	0.635869	1.145135
MON2	0.290766221	0.852567	0.63418	1.146158
DIS3L	0.290934483	0.852842	0.634698	1.14596
TRIM63	0.292213387	1.173221	0.871518	1.57937
MUSTN1	0.292241234	0.852692	0.633871	1.147052
RFXANK	0.292385094	0.853712	0.635987	1.145973
ALG13	0.292867082	1.171263	0.872424	1.572464
HSP90B1	0.292997247	1.171468	0.872223	1.573377
EXPH5	0.29319915	0.852662	0.633434	1.147763
TPGS1	0.293425	1.170517	0.872608	1.570134
BBS9	0.293864696	0.853745	0.635483	1.146971
MATR3	0.294984757	0.853892	0.635363	1.147584
TOR1B	0.295395843	1.169794	0.872031	1.569232
RECQL5	0.296285492	0.854612	0.636397	1.147652
MLH3	0.296522484	0.85465	0.636385	1.147773
SETD1A	0.296591951	0.854634	0.636325	1.147841
TIMM13	0.296642393	1.16951	0.871554	1.569328
EI24	0.296687438	1.172924	0.869303	1.582591
NAA15	0.297445572	1.172791	0.86898	1.582819

PLBD2	0.297525274	1.170155	0.870663	1.572668
APC2	0.297599846	1.169275	0.871201	1.569333
GGTLC1	0.298182919	0.854975	0.636438	1.148553
C17orf75	0.298264933	0.854705	0.635827	1.148931
C12orf73	0.298315835	1.168902	0.871066	1.568573
VMO1	0.298432226	0.855997	0.638537	1.147515
HNRNPUL1	0.29868628	1.171785	0.868971	1.580123
CATSPER2	0.298973091	0.854832	0.635822	1.149279
SLC25A24	0.299167825	1.169113	0.870475	1.570206
ABRA	0.300131799	0.856216	0.638351	1.148437
POT1	0.300157241	1.169472	0.869711	1.572551
CEP83	0.301028832	0.855821	0.637151	1.149539
DCTN4	0.301081417	0.856757	0.639151	1.148451
HIST2H2AC	0.301422084	1.168047	0.869986	1.568225
USP24	0.301923847	0.856665	0.638624	1.14915
MRPL28	0.302549936	1.167518	0.869743	1.567244
MANEA	0.30294307	0.85676	0.638435	1.149747
ZNF551	0.303668776	0.856761	0.638154	1.150254
MRPL41	0.304089116	1.166983	0.869288	1.566625
RAB19	0.305124238	1.166726	0.868914	1.56661
TCIRG1	0.305385603	0.855917	0.635658	1.152496
BOD1L1	0.305546712	1.166758	0.868669	1.567137
METTL23	0.305682153	1.167292	0.868234	1.569357
FKBP8	0.306327962	0.857592	0.638923	1.151101
DGKH	0.306401824	1.166703	0.868253	1.567742
PTPN12	0.306649015	1.165248	0.869116	1.562279
SLC25A39	0.306837595	1.166143	0.868404	1.565965
ADAMTS12	0.306846834	1.167461	0.8675	1.571141
SULT1C3	0.306905036	1.166495	0.868128	1.567406
PIK3CA	0.307139579	1.166434	0.868045	1.567393
EXOC2	0.307157699	0.858033	0.639559	1.151138
CAV2	0.307180192	1.16554	0.868636	1.563928
ERCC8	0.307551862	1.165646	0.868367	1.564695
UNC13C	0.308735257	0.858065	0.639015	1.152204
HIVEP1	0.309515544	0.857034	0.636465	1.154041
TBC1D5	0.309520401	0.85805	0.638676	1.152775
CSNK1G3	0.310042115	1.164678	0.867719	1.563266
EIF5A2	0.31079755	1.164746	0.867273	1.564251
PLXDC2	0.31162779	0.857832	0.637379	1.154536
IFT22	0.311790334	0.858184	0.638082	1.154208
HNRNPA3	0.311933943	1.163748	0.86737	1.561397
ZNF426	0.311999989	0.859173	0.640163	1.153109
YWHAB	0.312243261	1.164664	0.866565	1.56531
PTPRG	0.312682142	0.859096	0.63973	1.153684

CBX8	0.312711012	0.858789	0.639047	1.154093
ZNF283	0.312754292	1.16277	0.867623	1.55832
GPATCH11	0.312844632	0.859243	0.639988	1.153613
PUM1	0.313425867	0.859133	0.63952	1.154161
HSPB9	0.313688637	0.859956	0.641223	1.153302
NBEAL1	0.314110833	0.859105	0.639192	1.154679
PITPNB	0.314116709	1.16716	0.863819	1.577024
FAM209A	0.314161234	1.165352	0.865064	1.56988
GPR82	0.314203013	0.856363	0.633162	1.158247
HNRNPLL	0.31436783	0.858776	0.63837	1.15528
SIRT7	0.314591411	0.860124	0.641241	1.15372
SIGIRR	0.314628003	0.857135	0.634678	1.157564
LINC00116	0.314769551	1.163468	0.86607	1.56299
SRRT	0.314875645	1.163563	0.865946	1.563468
DUS3L	0.315072808	0.860283	0.641403	1.153855
OXNAD1	0.315692731	1.162465	0.866294	1.559891
TMEM185A	0.316606564	1.161723	0.866342	1.557813
ZNF525	0.316654709	1.161618	0.866391	1.557445
TRAPPC13	0.317072373	0.860696	0.641535	1.154726
ZNF774	0.317592516	0.86002	0.639842	1.155964
ADCK5	0.317694944	0.860941	0.641832	1.154848
ARSI	0.317733874	1.161457	0.86594	1.557825
COX8A	0.318391831	1.163037	0.86446	1.564738
TBC1D8B	0.319350218	0.86082	0.640921	1.156167
SRSF11	0.319635814	0.860581	0.640281	1.156679
PDAP1	0.319879194	1.165165	0.86214	1.574696
TIMP2	0.320325623	1.162007	0.864178	1.56248
BARD1	0.3204349	1.16489	0.86204	1.574136
PCED1A	0.32101233	0.860712	0.640032	1.157482
KPNA6	0.32156373	0.861017	0.640491	1.157472
GPR52	0.321776518	0.861838	0.642227	1.156545
FAM220A	0.321892194	1.161447	0.863756	1.561736
JMJD1C	0.322309473	0.861243	0.6407	1.157703
RHBDD3	0.3223452	1.159912	0.864637	1.556023
LMBR1	0.322406759	1.162395	0.862793	1.566034
GRSF1	0.322449552	1.16101	0.86378	1.560517
LDHAL6B	0.322925349	1.160136	0.864168	1.557471
MYADM	0.323310545	1.159159	0.864682	1.553923
CRLF3	0.32391025	0.862178	0.642148	1.157599
TIMM17B	0.324330036	1.160703	0.863012	1.561082
TOMM34	0.324783662	1.162	0.861818	1.566741
DDX6	0.325739147	0.862477	0.642099	1.158492
TEPSIN	0.326007848	0.862392	0.641804	1.158796
IBA57	0.326369422	0.863002	0.643024	1.158234

SSH1	0.327270366	0.861862	0.640128	1.160403
NAT9	0.327552558	0.863314	0.643258	1.158649
NUDT8	0.327615993	0.863148	0.642863	1.158917
RYBP	0.328405876	0.863865	0.644158	1.158508
ZNF148	0.328437306	0.862927	0.642046	1.159797
NUPL2	0.328489491	1.157889	0.86291	1.553702
MAPK15	0.328545301	0.863103	0.642397	1.159636
C3orf49	0.330755324	0.864475	0.644609	1.159334
WDR27	0.331542564	0.863326	0.64172	1.16146
SELENOH	0.332098018	0.864182	0.643424	1.160682
MRM1	0.332340648	0.864209	0.64339	1.160816
OAZ2	0.332812598	0.865129	0.645277	1.159887
RHOT2	0.333021078	0.864062	0.642792	1.161501
ACCS	0.333310204	0.863618	0.641678	1.16232
FBXL6	0.333409459	0.86514	0.645067	1.160293
HYI	0.333415036	0.864298	0.643168	1.161456
ATP5G1	0.333510396	1.159337	0.859162	1.564387
ZNF792	0.333906436	0.864861	0.644243	1.161028
ITPRIP	0.333931942	1.155458	0.861904	1.548993
TAS2R50	0.334173615	1.155451	0.861782	1.549194
TAF1C	0.334461713	0.86487	0.644046	1.161408
REST	0.334466335	1.155907	0.86128	1.55132
SMAD5	0.334686146	0.865144	0.644576	1.161188
ITGB5	0.334831215	1.155475	0.86142	1.54991
FNDC9	0.335036257	1.155965	0.860936	1.552095
CCDC107	0.335299728	1.156538	0.860357	1.554681
DYRK1A	0.336026098	0.865996	0.645977	1.160951
IGF2R	0.337326575	0.866068	0.645633	1.161767
ARID3C	0.337861248	1.154861	0.860309	1.550261
PNPLA8	0.337943526	0.865637	0.644412	1.162808
PRPF4	0.338591317	1.154389	0.860294	1.549022
RAB10	0.338741104	1.158722	0.856842	1.566959
BLOC1S1	0.339181392	1.155607	0.859033	1.55457
SLC35E2	0.341430597	0.866813	0.645712	1.163622
AC096887.1	0.341630407	0.866319	0.644507	1.164469
SERPINE2	0.341716051	1.153601	0.859275	1.548742
ABCE1	0.341867821	1.154632	0.858381	1.553129
AC009690.1	0.341964868	1.153588	0.859155	1.548924
NDUFA11	0.342678939	0.86681	0.645212	1.164515
FAM98C	0.342682365	0.867546	0.646892	1.163464
CDV3	0.34272205	1.153117	0.859131	1.547703
COMMD4	0.342866144	1.152911	0.85922	1.54699
RTTN	0.343563634	1.152258	0.859375	1.544957
ADAM17	0.343577923	0.864329	0.63921	1.168732

CD40	0.343605476	0.866781	0.64478	1.165217
OSBPL7	0.343769334	0.867534	0.646438	1.164251
BCL7B	0.344088433	1.154765	0.857102	1.555805
ZBTB3	0.34434193	0.867942	0.647145	1.164071
TECR	0.34457317	1.152115	0.858962	1.545318
KLHL17	0.344774535	0.867366	0.645655	1.165209
POLI	0.345088703	0.867672	0.646232	1.164991
HIST1H2BN	0.345137936	1.152749	0.858158	1.548469
TRAPPC10	0.345486507	0.866916	0.644344	1.166369
HINT2	0.346001205	0.867848	0.646276	1.165385
UBR1	0.346426467	0.868512	0.647632	1.164724
ZFC3H1	0.346615726	1.152582	0.857516	1.549179
NPAT	0.346929192	0.8685	0.647407	1.165098
MAMDC4	0.347067721	1.15172	0.857974	1.546036
FGF5	0.347137655	1.154527	0.855675	1.557754
CCDC117	0.347461266	0.867749	0.645471	1.166572
USP33	0.348920215	0.86863	0.64692	1.166325
SPPL3	0.349414974	1.15152	0.856905	1.547429
LMBR1L	0.35010855	0.868133	0.645304	1.167908
GOLGA8A	0.350426064	0.868277	0.645509	1.167923
TIGD4	0.350844527	0.869866	0.649012	1.165875
FAM46D	0.350926744	0.869745	0.6487	1.166112
UCKL1	0.351220775	0.868168	0.644943	1.168656
HIPK3	0.351604911	0.869757	0.64846	1.166576
WDR83OS	0.351736608	0.869029	0.646723	1.16775
RANGRF	0.351967012	0.869575	0.647895	1.167103
CCDC66	0.352169726	0.868296	0.644859	1.169151
DVL3	0.35224781	1.149503	0.857074	1.541709
BOLA2B	0.35227828	1.149647	0.85694	1.542335
FLNC	0.352609739	1.149876	0.856577	1.543605
AC010422.3	0.353637534	1.150261	0.855719	1.546188
N4BP2L2	0.353975379	0.869364	0.64661	1.168856
SLC10A1	0.354980124	0.870334	0.648462	1.168121
TAF10	0.35539136	1.1489	0.85593	1.54215
CNOT3	0.355840214	1.148235	0.856252	1.539785
IPP	0.356128376	0.870183	0.647654	1.169171
ZNF7	0.356321192	0.8696	0.646222	1.170192
CDC27	0.356839075	1.149195	0.854924	1.544757
JMJD6	0.356942459	1.148449	0.855496	1.541721
RELL1	0.357109692	1.149358	0.854645	1.545699
ZNF513	0.357535751	0.871253	0.649587	1.16856
TNFRSF12A	0.357877276	1.148092	0.855307	1.541102
ZNF627	0.358122491	0.871555	0.65006	1.16852
FUK	0.359671471	0.871471	0.64925	1.169754

FGFR1OP	0.359724191	1.147003	0.855262	1.538261
FRYL	0.359979842	1.146709	0.855378	1.537265
HIST1H2BJ	0.360137724	1.147222	0.85486	1.539572
PACS1	0.360346394	1.147997	0.854091	1.54304
CERS6	0.360601382	1.147325	0.854529	1.540443
TMEM248	0.360834245	1.147294	0.854433	1.540533
TMEM109	0.360891512	0.871892	0.649748	1.169984
TBC1D32	0.361047308	0.871075	0.647775	1.171352
DPM3	0.361297832	0.872062	0.649985	1.170014
DDX39B	0.361713685	0.870447	0.646039	1.172806
C6orf10	0.361956249	0.871284	0.647901	1.171686
BCL10	0.363264428	1.14576	0.854476	1.536342
CHCHD1	0.363295369	1.146954	0.853432	1.541428
PRKACA	0.363609537	0.872056	0.649051	1.171684
CUL5	0.364981533	0.873016	0.650763	1.171175
TRIM68	0.36547605	0.873293	0.65122	1.171097
APC	0.365563699	0.873241	0.651061	1.171241
ME2	0.365816961	0.87276	0.649826	1.172177
ASGR1	0.366055413	0.873399	0.651237	1.171347
FOXN2	0.366250632	1.145137	0.853455	1.536507
IMPG2	0.366386736	1.146833	0.851908	1.543859
COX18	0.366741161	0.8735	0.651203	1.171681
DCBLD1	0.367821532	1.144706	0.853009	1.53615
LINC00854	0.367960183	0.870323	0.643228	1.177597
KLHDC1	0.368113681	0.872802	0.649004	1.173773
TRAM2	0.369538122	1.143525	0.853151	1.532728
MCRIP2	0.369702721	0.874195	0.651667	1.172711
SPPL2B	0.369739724	0.873189	0.649265	1.17434
IL1RAPL1	0.37072904	1.145233	0.851016	1.541167
PIP4K2A	0.370859912	1.14339	0.85258	1.533392
AC092835.1	0.371122666	0.873773	0.650096	1.17441
RP1	0.371167677	1.143196	0.852591	1.532853
FIZ1	0.371502251	1.14391	0.851781	1.536229
NOTO	0.371730814	0.875061	0.652915	1.172788
RHPN1	0.372981665	0.874587	0.651286	1.174451
PCP4	0.373004368	0.874923	0.652077	1.173926
THOP1	0.373473955	1.143153	0.851421	1.534846
LRBA	0.374295308	0.875134	0.652062	1.174519
PALM2-AKAP2	0.374514906	0.874609	0.65072	1.17553
UBE3C	0.376254614	1.145205	0.848107	1.546378
MAB21L2	0.376349705	0.875431	0.651947	1.175525
BET1L	0.376843502	0.876119	0.653397	1.174759
ZGRF1	0.376909212	1.14118	0.851401	1.529587
RC3H2	0.376935061	1.141607	0.851	1.531451

RPP25L	0.377164059	1.142037	0.85049	1.533526
PIPOX	0.377225297	0.875154	0.65093	1.176615
FAM173A	0.378242464	1.142373	0.849616	1.536005
DDX3X	0.378353356	1.141026	0.850787	1.530277
SCIN	0.378360132	0.876711	0.654211	1.174885
SCAF11	0.378930386	1.143004	0.848678	1.539403
HIST1H2BB	0.378934225	0.876394	0.653218	1.17582
NTHL1	0.379010885	0.876791	0.654143	1.175222
NCEH1	0.379046387	1.141389	0.850091	1.532504
MTM1	0.379159829	0.874668	0.648982	1.178837
VEGFB	0.379172959	1.141174	0.850222	1.531691
PREB	0.379614791	1.141663	0.849541	1.534232
GPAT3	0.380359342	1.143492	0.847473	1.542908
RRP1B	0.380509905	1.140415	0.850217	1.529664
HIST2H3D	0.380807951	1.140124	0.850329	1.528682
HIST1H2BA	0.380961997	0.87695	0.653739	1.176373
CEP128	0.381412095	1.139894	0.850224	1.528255
TMEM196	0.381596804	1.140182	0.849862	1.529677
UBL4B	0.381698722	1.14051	0.849505	1.531201
SCART1	0.381848529	0.875709	0.650391	1.179086
GCNT7	0.381930805	0.875329	0.649443	1.179783
ZNF789	0.382275025	0.87717	0.65374	1.176961
PLEKHH3	0.382594113	0.877389	0.654143	1.176826
TLR1	0.384035264	0.877722	0.654366	1.177316
DDX17	0.384766764	0.876087	0.650112	1.180609
CREB1	0.385163509	0.877758	0.653997	1.178077
CAB39	0.38545922	1.139434	0.848528	1.530073
C17orf62	0.385852421	1.139911	0.847874	1.532536
CIC	0.388212889	1.138557	0.847904	1.528843
BABAM1	0.388753916	0.878962	0.655474	1.178651
AC009119.2	0.38882939	0.878944	0.655398	1.178738
ZBTB2	0.388843347	1.137617	0.848464	1.525312
MAGEB17	0.389378974	1.137416	0.848375	1.524932
AATK-AS1	0.38962588	1.137639	0.848033	1.526146
RNPC3	0.389933128	0.877335	0.651027	1.182312
C4BPA	0.39014969	0.876144	0.648044	1.184532
MSH5-SAPCD1	0.390229263	0.878508	0.653765	1.180511
KLHL15	0.390403744	1.137774	0.847494	1.52748
YWHAH	0.390449207	1.137935	0.847317	1.52823
TRAPPC12	0.390777488	0.87861	0.65379	1.180739
CAP1	0.390918445	0.878712	0.653983	1.180666
ADPGK	0.391446145	0.879069	0.65464	1.180438
TUBGCP6	0.391926629	0.878727	0.653607	1.181384
RAB32	0.391979176	1.137256	0.847161	1.526687

AARSD1	0.392476012	0.879187	0.65451	1.180991
CALD1	0.392722065	1.136276	0.847714	1.523065
HIST1H3F	0.393483615	1.137532	0.8461	1.529346
PATL1	0.393489699	1.136911	0.846697	1.526598
ANAPC1	0.39376752	0.87861	0.652567	1.182952
TMOD3	0.395023916	1.140484	0.842432	1.543986
CCDC183	0.395355108	0.87988	0.655034	1.181905
MYSM1	0.395731086	0.879338	0.653548	1.183135
FAM47E	0.395975203	0.879681	0.654291	1.182713
PGBD4	0.396506177	0.880685	0.65655	1.181337
ABCA10	0.396615623	0.879776	0.654262	1.183021
ZBTB6	0.396864437	0.880793	0.656668	1.181411
DHPS	0.396917929	1.136367	0.845413	1.527456
RLF	0.397045304	0.880498	0.655867	1.182064
BRCC3	0.397824175	1.135423	0.845859	1.524114
COL3A1	0.398277842	1.13555	0.845494	1.525113
ETS1	0.398564018	0.880705	0.655756	1.18282
GCC1	0.398630247	1.134831	0.846016	1.522242
CCS	0.399173837	0.880568	0.655167	1.183514
ZNF169	0.399292268	0.879791	0.653197	1.184989
SNX12	0.399657769	1.134645	0.845658	1.522387
RSRP1	0.400469807	0.879688	0.652456	1.186057
PLEKHF2	0.400917554	0.881884	0.657716	1.182455
TMED3	0.401574983	1.135449	0.843846	1.527822
CABP4	0.401714097	0.881785	0.657143	1.18322
GAS7	0.401772425	0.87938	0.651155	1.187595
DOHH	0.402305669	1.1337	0.845202	1.520672
NEK1	0.402426525	0.881922	0.657191	1.183502
NME1	0.402429431	1.134112	0.844725	1.522637
SRRM5	0.402553679	1.133531	0.845239	1.520153
GPS1	0.403544501	0.881015	0.654474	1.185971
SMARCA5	0.40379001	1.13383	0.844287	1.52267
PPP1R3F	0.404241329	1.133375	0.844504	1.521058
SEC61B	0.404383778	1.13354	0.844263	1.521934
CTBS	0.404799644	1.135179	0.842395	1.529725
ARMCX1	0.404826698	0.882384	0.657355	1.184445
MINDY2	0.405428755	0.882044	0.656258	1.185512
CAPN10	0.405596477	0.882409	0.657101	1.184971
CPSF4L	0.405967541	0.882294	0.656661	1.185457
INTU	0.406265755	0.882456	0.656943	1.185384
ZNF724	0.406871352	0.881905	0.655315	1.186845
CAPZB	0.407348745	1.134061	0.84216	1.527139
SF1	0.407607344	0.883358	0.658649	1.18473
LUZP1	0.407637201	1.13196	0.844143	1.517912

C8G	0.408106318	0.883076	0.657736	1.185619
KLHL28	0.408825586	1.131375	0.844114	1.516393
LUC7L3	0.409006669	0.883144	0.657534	1.186165
P4HTM	0.409349601	0.882621	0.656079	1.187389
ROCK1	0.409798053	0.883717	0.658647	1.185697
LYPLA1	0.410277243	1.13332	0.84135	1.526611
USPL1	0.410322439	0.883375	0.657568	1.186723
HIST1H2AM	0.410517454	1.131427	0.843166	1.518238
NRBF2	0.41137866	1.131827	0.842296	1.520881
MYO1B	0.411564844	0.884206	0.659148	1.186106
ARPC4-TTLL3	0.411719343	1.131675	0.842272	1.520516
BMPR2	0.411928237	0.884111	0.658758	1.186554
CD70	0.412189602	1.130312	0.843434	1.514765
TNK2	0.412591572	0.883556	0.657082	1.188088
YPEL3	0.413372411	0.884116	0.658172	1.187625
SLC25A4	0.413754825	0.884777	0.659685	1.186673
APAF1	0.414907088	0.883177	0.655158	1.190555
LRRC14	0.415681086	0.884393	0.657909	1.188842
FBXW5	0.416566114	1.131338	0.840033	1.523663
KIR3DX1	0.417073358	1.129714	0.84147	1.516694
FBXO28	0.417078901	1.131223	0.839878	1.523634
DCP2	0.417254808	1.12885	0.842285	1.51291
VPS13B	0.417773384	0.885147	0.658952	1.188986
MPP5	0.417868384	1.128979	0.841824	1.514086
NDUFAF7	0.417992299	0.885727	0.660339	1.188045
INVS	0.418106001	1.129412	0.841239	1.516299
AGO3	0.418259509	0.885511	0.659676	1.188658
RPS19BP1	0.418388956	1.129274	0.841234	1.51594
C9orf131	0.418546233	0.884589	0.657209	1.190637
RIF1	0.418666179	1.130238	0.840065	1.520642
MEF2D	0.419526718	0.885999	0.660392	1.188678
FAP	0.419636703	1.129898	0.839906	1.520014
LSM7	0.419691255	0.885027	0.657844	1.190667
HIST1H3H	0.420354733	1.128209	0.841322	1.512923
CPT1A	0.421630775	1.127581	0.841317	1.511247
SYF2	0.422019077	0.886271	0.660047	1.190031
DPP7	0.422317029	0.88684	0.661381	1.189156
PRR13	0.422520571	1.129542	0.838737	1.521175
SRSF2	0.423637105	1.126874	0.841014	1.509899
NPEPL1	0.423973348	0.885888	0.658243	1.192261
BPIFA2	0.424861709	0.886651	0.659828	1.191447
FNBP4	0.424958074	0.88612	0.658423	1.192559
MNT	0.425481149	1.128054	0.838751	1.517145
KLK14	0.425617741	0.887609	0.661977	1.190145

RBM10	0.426045472	0.886671	0.65938	1.192309
PITPNA	0.426178135	0.887576	0.661658	1.190632
VGLL2	0.427258357	1.126383	0.839621	1.511086
ZNF808	0.427302979	0.887867	0.661938	1.19091
HIST1H2AJ	0.427504938	1.126193	0.839697	1.510439
PRKDC	0.427599837	1.127005	0.838757	1.514312
FAM221B	0.428164038	0.887077	0.659531	1.193128
ATP5L2	0.429032078	0.888442	0.662699	1.191083
PRR14	0.429080228	0.887857	0.661162	1.192279
CASP8AP2	0.429517954	1.126155	0.838663	1.512199
RNASEK	0.430616676	1.126208	0.838015	1.513512
HSD17B10	0.430962491	1.125814	0.838266	1.511997
DEGS1	0.43185912	1.126777	0.836715	1.517395
PGGHG	0.43231039	0.888578	0.661669	1.193303
CPSF2	0.432468167	1.127055	0.836076	1.519303
KBTBD8	0.432519567	0.885957	0.654779	1.198755
CLDN12	0.43257323	1.127161	0.835902	1.519906
DDX5	0.432846403	0.887667	0.659071	1.195551
ZNF121	0.43387415	1.124182	0.838527	1.507149
DDX51	0.434431124	0.889411	0.662943	1.193244
ALKBH2	0.434592543	1.124383	0.837915	1.508789
BICRA	0.434622904	0.88852	0.660534	1.195197
TXNDC12	0.435031814	1.124897	0.837102	1.511636
PDE5A	0.435131332	0.889139	0.661934	1.194332
ADCY5	0.435650352	0.88958	0.662867	1.193833
ZNF221	0.435974481	0.887496	0.657286	1.198335
APP	0.43600973	1.124135	0.837434	1.508991
CEP120	0.436319475	0.889018	0.661112	1.195492
ZRANB2	0.436691891	0.889732	0.662821	1.194322
ZNF837	0.436796347	0.889546	0.66229	1.194782
BRICD5	0.436978249	1.123769	0.837329	1.508196
TATDN2	0.437527695	1.124135	0.836618	1.510462
EXOSC4	0.437942654	1.124407	0.836085	1.512156
NEK6	0.438088421	0.890196	0.663446	1.194444
ANKRA2	0.438476369	0.890026	0.662835	1.19509
RRP36	0.438514415	1.123875	0.83638	1.510192
AP003108.2	0.438705769	0.890246	0.663313	1.194816
LUC7L	0.438967957	0.889925	0.662358	1.195677
ATF7	0.439496954	1.123711	0.836037	1.510369
UBE4A	0.441340969	1.123733	0.835013	1.512282
C9orf16	0.441518058	0.891357	0.665048	1.194678
NFKBID	0.442586306	0.890933	0.663468	1.196383
ANKMY2	0.442704486	1.122026	0.836244	1.505472
STX17	0.443145428	0.890403	0.661828	1.197923

C8B	0.443318348	0.89013	0.661031	1.19863
KCNAB3	0.443698871	1.123775	0.833681	1.514811
MAB21L1	0.443847795	0.891675	0.664893	1.195807
POMT1	0.444278314	0.889907	0.660026	1.199853
LENG8	0.444288081	0.890851	0.66252	1.197875
PPP1R9A	0.444410998	0.891977	0.665454	1.195608
GJC1	0.444415782	1.121871	0.8355	1.506399
ZNHIT2	0.444669338	1.12366	0.833283	1.515226
BPIFB4	0.444790035	0.891835	0.664915	1.196198
NPIPB15	0.44533977	0.891599	0.664052	1.197118
MED11	0.445381761	1.121511	0.835397	1.505615
WDR36	0.445497627	1.121402	0.835462	1.505206
ANAPC5	0.445987355	0.888348	0.655169	1.204517
HDGF	0.446026395	1.124707	0.831322	1.52163
DOCK11	0.446298891	0.891608	0.663662	1.197845
FBXL15	0.446453228	0.892332	0.665524	1.196435
RB1CC1	0.44697713	1.121816	0.834175	1.508642
AC090004.1	0.447169993	0.891516	0.663042	1.198718
ANKRD26	0.447492957	0.892331	0.665074	1.197242
TUT1	0.448002941	1.121923	0.833491	1.510168
ITGB1BP2	0.44812889	1.12191	0.833437	1.51023
TMEM154	0.448333492	1.121984	0.833239	1.510788
VGLL4	0.449090316	1.12103	0.833951	1.506933
PAPOLB	0.449399617	0.892919	0.665826	1.197467
TGIF2-C20orf24	0.449940568	0.893024	0.665873	1.197663
7-Sep	0.449978976	1.120126	0.834541	1.50344
SH3GLB2	0.450706771	0.89304	0.665586	1.198224
CEBPD	0.450707801	0.893114	0.665784	1.198066
KMT2A	0.450794652	0.892674	0.664567	1.199078
MYH7B	0.450838541	0.892716	0.66466	1.199022
EVI5	0.45092068	0.893279	0.666134	1.197878
UBE2H	0.451298271	1.121656	0.832003	1.512148
SGSM2	0.451524722	0.893227	0.665735	1.198458
KAZALD1	0.45191793	1.119412	0.83434	1.501886
SORL1	0.452463815	0.893064	0.66489	1.199543
SURF2	0.452898473	0.8929	0.664259	1.20024
CLDN20	0.453129419	1.119943	0.833046	1.505645
MXD3	0.45464463	1.118138	0.834396	1.498367
SPACA4	0.454715259	1.118535	0.833877	1.500366
GPS2	0.454755956	0.892908	0.663472	1.201686
PHC3	0.454771238	1.119097	0.833168	1.503152
TMEM62	0.454899229	0.89414	0.666731	1.199114
TAS2R30	0.454980781	0.894438	0.667502	1.198528
NME4	0.455132255	1.119019	0.833065	1.503129

CRIPAK	0.456085005	0.893318	0.663995	1.201842
USP3	0.456630099	0.893279	0.663652	1.202358
HELQ	0.456721053	0.894712	0.667489	1.199286
SPATA1	0.456983639	0.894026	0.665516	1.200997
IMP4	0.456996875	1.118503	0.832675	1.502445
OXSR1	0.457041587	1.118826	0.832256	1.50407
PEX6	0.457427107	1.118785	0.832096	1.504249
MEF2A	0.457944839	0.89486	0.667358	1.199918
ZER1	0.45833844	0.894301	0.665668	1.20146
TNPO1	0.459013657	1.118959	0.831012	1.50668
DENND4B	0.45925777	1.116953	0.833338	1.497092
ATP7A	0.459281313	1.117793	0.832294	1.501225
APH1A	0.459473011	0.893843	0.66393	1.203373
EPB41L2	0.460295766	0.893318	0.662143	1.205202
ADCK2	0.460543541	1.116995	0.832586	1.498558
VAMP3	0.46117459	0.89511	0.666627	1.201905
FAM208B	0.461473066	1.116879	0.832222	1.498902
PTPRJ	0.461477334	1.117151	0.831883	1.500243
OXR1	0.461523292	0.895706	0.6681	1.200852
PIGBOS1	0.461712689	0.895575	0.667659	1.201294
CDRT4	0.463080149	0.894985	0.665449	1.203697
BIRC6	0.463158698	0.895845	0.667763	1.20183
PITX2	0.463176161	1.116303	0.832007	1.497743
NIPSNAP1	0.463542337	0.89578	0.667418	1.202278
EMP1	0.463799915	1.1162	0.831794	1.49785
HBG2	0.464188996	0.895296	0.665807	1.203883
ZNF658	0.464409155	0.895716	0.66686	1.203111
ELMOD3	0.464541264	1.117044	0.830334	1.502753
CCNT1	0.464630778	1.116518	0.830941	1.500241
NFAT5	0.464763075	0.896325	0.668375	1.202018
SSNA1	0.466226846	0.896398	0.667932	1.203011
ABHD18	0.46635637	0.896716	0.668749	1.202394
KLRC3	0.466552886	1.115374	0.831323	1.496481
MT-ND1	0.467522074	0.896568	0.667827	1.203655
OCEL1	0.468113592	0.89558	0.664846	1.206388
EXOSC1	0.468138004	0.897078	0.668962	1.202982
CXCR1	0.468417891	0.896547	0.667374	1.204417
GEMIN8	0.468649895	0.894583	0.661872	1.209114
FBXL4	0.468934121	0.896437	0.66684	1.205084
NR1D2	0.469187325	0.897351	0.669254	1.20319
HIST1H3B	0.469210639	1.114894	0.830471	1.496728
ANKHD1-EIF4EBP3	0.469234379	0.896703	0.667442	1.204714
RAB40C	0.469836055	0.896967	0.667905	1.204587

HAUS7	0.470104397	1.114345	0.830678	1.494882
PSMG4	0.470650999	1.113961	0.83087	1.493505
ARFIP2	0.471371271	0.896769	0.666675	1.206278
SRSF6	0.471723588	0.896928	0.666958	1.206193
CHD1	0.471819183	1.113782	0.830457	1.493768
AKR7A2	0.472025551	0.897368	0.668042	1.205417
TCTN1	0.472051067	0.897998	0.66978	1.203978
ZNF770	0.472199043	1.115471	0.828079	1.502604
GPATCH2L	0.472519236	1.114124	0.829632	1.496174
WDFY3	0.47323494	1.113202	0.830427	1.492267
HIST1H1A	0.473634226	0.898229	0.66972	1.204706
ANAPC4	0.474523892	0.898552	0.670225	1.204664
ZNF700	0.475564657	0.896886	0.665118	1.209415
CHKB-CPT1B	0.475828585	1.114072	0.827863	1.499231
HNRNPH3	0.475835104	1.113887	0.828101	1.4983
ZSCAN12	0.475842447	0.898726	0.670122	1.205315
CDK3	0.476153326	1.11288	0.829234	1.49355
ZNF823	0.476854931	0.899021	0.670495	1.205434
COPB1	0.478297426	0.898342	0.667949	1.208203
PNPLA2	0.478917824	0.899108	0.669819	1.206887
RANBP6	0.479838295	0.89948	0.670449	1.206748
OFD1	0.480401863	0.898004	0.666052	1.210732
KRTAP5-9	0.480928592	0.898951	0.668471	1.208897
TMBIM1	0.481083026	1.111937	0.827738	1.493715
LACC1	0.481707444	1.111669	0.827747	1.492979
C1orf35	0.483185298	1.111115	0.827663	1.49164
SLC9C1	0.483248001	1.110787	0.828066	1.490036
ARL17A	0.483959548	0.900681	0.671989	1.2072
GPX4	0.484019738	0.900379	0.671108	1.207977
GAPVD1	0.485459632	0.900775	0.671581	1.208188
UBQLN2	0.485516754	1.11001	0.827849	1.488342
MDFIC	0.486105664	1.110126	0.827364	1.489526
VMA21	0.486432536	1.110018	0.827328	1.4893
TCN2	0.486538103	0.901117	0.672065	1.208235
TP53I11	0.486739403	0.900729	0.670868	1.209346
ANO6	0.487032524	1.110955	0.825724	1.494714
SSTR2	0.487265692	1.109773	0.827195	1.488881
THAP6	0.487558655	0.901472	0.672615	1.208197
PRR16	0.487972114	1.110159	0.826276	1.491576
CEP295	0.488151349	1.109682	0.826825	1.489304
DAZAP2	0.488615979	1.109073	0.827394	1.486648
STRN	0.48909451	1.112147	0.822941	1.50299
EBLN2	0.490397327	0.901369	0.67103	1.210774
SCO2	0.490925673	0.901976	0.672527	1.209707

PRKG1	0.49122816	0.90155	0.67117	1.211009
CHRNA10	0.491380956	0.902038	0.672497	1.209926
TMEM184C	0.491905344	1.108633	0.826159	1.487688
ANKRD36C	0.492560245	0.900941	0.668813	1.213634
PXT1	0.493552419	0.90096	0.66841	1.214416
HSPA4L	0.493711191	1.108335	0.825557	1.487974
COPS7B	0.493907825	0.901241	0.669053	1.214008
ZBTB37	0.493918471	0.90243	0.672466	1.211036
CENPS	0.494522228	1.109755	0.823127	1.496194
UQCRB	0.495492289	1.107405	0.825851	1.484946
GNB1	0.495865025	0.900235	0.66526	1.218205
ITPRIPL2	0.496758254	0.902564	0.671548	1.213051
ZFAND3	0.496903418	0.902911	0.672483	1.212295
THOC6	0.497565379	1.107454	0.824614	1.487307
TAS2R31	0.498092755	1.107084	0.824836	1.485914
ZNF45	0.498303935	1.107163	0.824606	1.48654
CTRL	0.498351881	1.106831	0.825047	1.484856
ADAT2	0.498355841	0.902749	0.671344	1.213917
AC012309.1	0.498499672	1.106395	0.825581	1.482725
HS1BP3	0.498941755	0.902831	0.67131	1.214199
ZZZ3	0.498958527	0.903528	0.673327	1.212433
ORC5	0.499255014	1.108035	0.822835	1.492088
MTOR	0.500243072	0.903356	0.672232	1.213944
WASL	0.500556609	0.903167	0.671538	1.214692
NDUFB7	0.500882775	0.903239	0.671596	1.214781
SPG11	0.501263475	1.106171	0.824339	1.484358
HIST1H1C	0.501794846	1.105827	0.824528	1.483095
PACRGL	0.502158703	0.904444	0.674517	1.212748
SDF2L1	0.502971556	1.1059	0.823757	1.484678
SWI5	0.50320465	1.105506	0.824191	1.482839
ANKRD23	0.503229802	0.903758	0.672016	1.215417
ZNF701	0.503542383	1.105891	0.823445	1.485217
CMTM3	0.504267348	1.105473	0.823635	1.483751
RAB23	0.504331683	1.106214	0.82253	1.487738
CAMSAP2	0.505485386	1.105753	0.822536	1.486487
ERGIC3	0.506087235	1.105651	0.822339	1.486568
STK17A	0.506596658	1.104519	0.823692	1.481089
T	0.507144381	0.905405	0.675022	1.214418
TARDBP	0.507358893	1.106294	0.820675	1.491317
ZNF81	0.507439839	0.904532	0.672313	1.216961
NR2C1	0.507727304	0.90469	0.672643	1.216789
L3MBTL1	0.508292555	0.905273	0.674095	1.215733
FBXO38	0.508320188	0.90503	0.673365	1.216397
ZNF593	0.508606383	0.905341	0.674147	1.21582

TMEM106C	0.508769676	1.105248	0.821386	1.48721
JPT2	0.508775624	1.105573	0.820908	1.488952
ADAMTSL1	0.50886055	0.905713	0.675127	1.215052
BTAF1	0.50942745	0.905482	0.674181	1.21614
HIVEP2	0.509706097	1.103788	0.822989	1.480395
CDK19	0.50974844	0.905637	0.674487	1.216003
PFDN6	0.510060829	1.104202	0.822178	1.482965
SLAIN2	0.510396272	1.103983	0.822308	1.482145
COX17	0.510921239	1.103689	0.822442	1.481112
LAT	0.511724399	0.904487	0.670152	1.220762
KLHL5	0.512051695	1.103201	0.822517	1.479667
COPE	0.512639733	0.90643	0.675481	1.216341
TNFAIP6	0.512772485	1.104447	0.820255	1.487102
MT1H	0.51332435	1.103314	0.821619	1.481589
MYL6B	0.513725974	1.105574	0.81803	1.494192
CEP44	0.514131634	0.906226	0.674167	1.218162
GNRH1	0.51438087	0.906491	0.67484	1.21766
TOR1AIP2	0.514449246	1.102595	0.822045	1.478892
PDGFC	0.514821754	1.102577	0.821858	1.479179
MUL1	0.515065974	0.90731	0.676963	1.216036
NIN	0.515412706	0.906331	0.673873	1.218977
PGM3	0.516047587	1.103282	0.820094	1.484258
ICE2	0.516078997	0.90541	0.670809	1.222057
UNC119	0.516086046	1.102109	0.821834	1.47797
TRAPPC8	0.516174064	0.90708	0.675749	1.217601
TMEM110-MUSTN1	0.51618682	0.905654	0.671486	1.221484
TMEM200B	0.516592361	1.102047	0.821636	1.47816
MAP4	0.516710027	1.102193	0.821348	1.47907
ABCA1	0.516753671	0.906587	0.673999	1.219437
FMO4	0.516798624	0.905771	0.671542	1.221698
SON	0.517240171	1.101607	0.821928	1.476455
GALK2	0.517287917	0.906391	0.67316	1.220431
AL121594.3	0.517329696	0.907367	0.676062	1.217809
RGL3	0.517432807	0.907122	0.675278	1.218565
NDUFB11	0.517434482	1.103018	0.819685	1.484289
DLEU1	0.517458229	1.102319	0.820726	1.480527
RABGEF1	0.518143092	0.907888	0.677241	1.217085
MAZ	0.518661406	1.102213	0.820191	1.481208
ESR2	0.518665797	0.907167	0.674826	1.219503
MAP7D3	0.518700599	1.101314	0.821532	1.476379
MRPL43	0.518773291	0.908109	0.677608	1.217019
CUX1	0.519667616	0.908277	0.677691	1.217322
ASCC3	0.519669764	1.101052	0.821372	1.475965

GPR65	0.519955926	0.906822	0.673172	1.221569
KIAA0141	0.520065535	0.908188	0.67723	1.217908
POLG2	0.520296712	1.100818	0.821369	1.475341
ATM	0.520846644	0.907823	0.675759	1.219582
AGAP5	0.521311471	0.90799	0.676041	1.219522
SH3KBP1	0.521990041	1.100888	0.820282	1.477483
BCS1L	0.522284787	1.101247	0.81956	1.479751
APBA3	0.522665395	0.907781	0.674759	1.221276
IFNK	0.52267894	1.100993	0.81972	1.47878
TTN	0.523331444	0.908428	0.676395	1.220058
PDE6C	0.523397524	0.908253	0.675835	1.2206
MANF	0.52342948	0.909017	0.678137	1.218504
SLC25A2	0.523678991	0.908908	0.677687	1.219021
ZNF805	0.523999182	0.908045	0.674914	1.221705
MMP17	0.524447542	1.101068	0.818573	1.481055
PARD6B	0.52459379	0.909274	0.678361	1.21879
PPP4R2	0.525261972	1.10101	0.818186	1.481599
GPR4	0.525738085	1.099713	0.819923	1.474978
AC020915.1	0.526450512	0.909256	0.677412	1.220448
PTOV1	0.526454463	1.100129	0.818856	1.478018
STYXL1	0.526851576	1.09969	0.81931	1.476019
PTPN20	0.52723361	0.909204	0.676874	1.221277
TWISTNB	0.527704709	1.100249	0.817936	1.480004
BGLAP	0.528085004	0.909068	0.676048	1.222405
ANKRD50	0.528187736	0.909948	0.678689	1.220006
SEMA6B	0.528208166	1.098765	0.81997	1.47235
F8A1	0.528485743	1.099583	0.818521	1.477156
RIMS1	0.528600929	0.909187	0.676162	1.22252
COMTD1	0.529601068	1.098628	0.819373	1.473057
COL8A2	0.529879929	0.910006	0.67805	1.221313
ALG11	0.530371273	0.909846	0.67732	1.222199
ARHGAP42	0.530594196	1.098579	0.81887	1.473832
IRAK4	0.530725104	0.909969	0.677527	1.222157
CDKL4	0.531166233	0.910429	0.678725	1.221232
SRSF5	0.531799115	0.909847	0.676627	1.223453
PHPT1	0.531986875	1.097991	0.818989	1.472041
HNRNPDL	0.532693741	1.097998	0.818564	1.472824
RANBP2	0.532840231	0.9105	0.67813	1.222494
ITPA	0.533043419	1.097786	0.818698	1.472014
ZBTB41	0.533978084	1.098306	0.817316	1.4759
BST1	0.534964332	0.911063	0.678834	1.222738
LAMTOR2	0.535446005	1.097205	0.818219	1.471317
FCGR3B	0.535447524	0.910693	0.677452	1.224238
ATPIF1	0.537091192	0.911464	0.679038	1.223448

PROK2	0.537146351	0.910806	0.676965	1.225422
PRR22	0.537328136	1.097885	0.816008	1.477133
PRKD2	0.537462769	1.097508	0.816539	1.475157
ITCH	0.538353375	1.097717	0.81567	1.477291
DNAJC16	0.538571042	0.911766	0.67925	1.223875
TMEM159	0.53875058	1.09727	0.81616	1.475203
TAZ	0.538824448	0.910496	0.675169	1.227843
ARMCX6	0.539208207	0.911081	0.6768	1.226461
BLID	0.541335168	0.912768	0.681024	1.223372
ARFGEF2	0.541842366	0.912165	0.67888	1.225614
P3H3	0.542139347	1.095531	0.816998	1.469021
C3orf35	0.542536534	0.912765	0.68042	1.224449
MAT2A	0.542686694	0.912451	0.67936	1.225517
PEAK1	0.543176201	0.911832	0.677171	1.22781
XPO6	0.54336897	1.095359	0.816553	1.469361
LRRFIP1	0.543466347	1.095297	0.816596	1.469118
PLGLB1	0.543560288	0.912826	0.680104	1.225182
PAXBP1	0.544028029	0.913137	0.680851	1.224671
C19orf43	0.544268299	1.095975	0.814993	1.473828
OR4C6	0.544527218	0.912452	0.678446	1.227171
DICER1	0.545046678	0.91289	0.679566	1.226324
IFITM1	0.545065717	1.09521	0.815787	1.470341
PPRC1	0.547072304	1.094533	0.815721	1.468642
CEP192	0.547650124	0.913713	0.68087	1.226183
RWDD1	0.548531796	1.094593	0.814745	1.470562
F7	0.548645135	1.094337	0.815108	1.469222
ZCCHC6	0.548863454	1.093967	0.815602	1.467338
HIST1H4F	0.548889151	1.0947	0.814348	1.471569
CEP350	0.548892783	0.913972	0.681071	1.226517
GAB1	0.549736968	0.9143	0.681691	1.226279
PI4K2A	0.549743521	0.914541	0.682458	1.225548
MMAB	0.550180767	0.914581	0.682368	1.225818
AC135178.2	0.550873964	0.913496	0.678557	1.229778
LAYN	0.551061866	1.093355	0.815324	1.466195
USB1	0.55148377	1.093647	0.814572	1.468334
DUS4L	0.552394524	1.093631	0.814049	1.469234
SNRK	0.553310656	0.914631	0.68095	1.228504
RNF111	0.553311306	0.914345	0.680032	1.229392
ROMO1	0.553454885	0.91481	0.681452	1.22808
FBXL13	0.553573524	1.094623	0.811634	1.476279
AAAS	0.553958662	1.093545	0.813248	1.470451
CDK17	0.554305614	1.092718	0.814462	1.466039
PCDHGC3	0.554744711	0.915211	0.682086	1.228013
YAE1D1	0.555114216	1.092809	0.813816	1.467447

RPL36A	0.555408029	1.092356	0.814421	1.465141
CYHR1	0.555501762	1.092157	0.81471	1.464087
GTF2H2C	0.555613338	0.915646	0.683047	1.227451
ZGLP1	0.556353615	0.91451	0.679014	1.231683
TACSTD2	0.55658276	0.915028	0.680563	1.23027
RNASEH2C	0.556655896	1.0931	0.812373	1.470838
IRF9	0.556939571	1.094404	0.80994	1.478776
JUND	0.557094477	0.915335	0.681293	1.229777
FBXW12	0.557657008	1.091957	0.813753	1.465271
HIST1H1T	0.55774734	1.091794	0.813983	1.464422
PARP16	0.558110849	0.916104	0.683264	1.228292
RAB17	0.558311932	0.915517	0.681258	1.230329
ZEB1	0.558328221	0.91574	0.681971	1.229641
USP53	0.55859908	1.091524	0.813938	1.463776
STIM1	0.55881786	1.091596	0.813679	1.464437
GPATCH2	0.559196858	0.914594	0.67782	1.234077
RNF208	0.560203724	0.916328	0.682923	1.229506
BRD4	0.560429794	1.090972	0.813796	1.462555
AC087632.1	0.561285372	1.090707	0.813744	1.461934
TAOK1	0.561424741	0.91585	0.680738	1.232164
PMS2	0.561766198	0.914064	0.67477	1.238217
RPP21	0.561876668	0.916687	0.683233	1.22991
ATRAID	0.561960741	1.09226	0.810584	1.471817
7-Mar	0.561992345	0.91693	0.683969	1.22924
TNFAIP1	0.562289651	1.090732	0.813086	1.463186
NOXRED1	0.5624023	0.916276	0.681622	1.231712
ACSM6	0.563035105	0.916857	0.683194	1.230437
NME2	0.563284952	1.091	0.812	1.465864
TMEM214	0.563678823	1.090589	0.812492	1.463872
CEP85L	0.563761728	1.092155	0.809652	1.47323
ZDHHC12	0.563819683	1.091067	0.811552	1.466855
PARP4	0.563986964	0.917112	0.683539	1.230501
GSTP1	0.564716755	1.091148	0.810854	1.468334
CHCHD10	0.565537306	1.089946	0.812501	1.46213
DCTN5	0.566041334	0.917051	0.682274	1.232617
FUS	0.566140132	0.917879	0.684949	1.230023
DFNB59	0.566295006	0.917408	0.683315	1.231696
NAA38	0.56702405	1.090194	0.811139	1.465252
MRPS26	0.567061199	0.917513	0.683263	1.232072
EPHB4	0.567264693	1.089188	0.81281	1.459542
ZBTB45	0.567653334	1.09003	0.811046	1.464978
SGMS2	0.568594951	1.089035	0.812269	1.460103
CFAP54	0.568828669	0.918384	0.685224	1.230881
SLC30A4	0.569350514	1.088845	0.812148	1.459814

RAB8B	0.570135737	1.089743	0.810025	1.466053
NPIPB4	0.570557698	0.918471	0.684611	1.232216
FAM186A	0.570717378	0.918475	0.684544	1.23235
GFM2	0.571073461	1.089302	0.810247	1.464465
C1orf100	0.571251635	1.088247	0.812071	1.458347
NDUFB1	0.571598817	1.088337	0.811689	1.459276
RHBDL1	0.57191349	0.918644	0.684477	1.232921
USP37	0.572441385	0.91814	0.682523	1.235095
GTPBP3	0.573386932	0.919044	0.685038	1.232985
MAP3K1	0.573489543	0.919083	0.685116	1.23295
MAPKAP1	0.573705221	1.087793	0.811388	1.458359
RFNG	0.573772844	0.918946	0.684509	1.233675
ZSCAN20	0.574717749	0.91946	0.685733	1.232852
FBXO40	0.574786756	0.919358	0.685353	1.23326
N4BP2	0.575928224	1.087652	0.810265	1.46
ZNF268	0.575948187	0.919469	0.685114	1.23399
TIA1	0.576123648	0.919442	0.684931	1.234247
GUCY1A3	0.57642224	0.91886	0.682819	1.236496
TSEN54	0.577024345	0.919286	0.68393	1.235635
ZBED6	0.578335291	0.918679	0.681193	1.238962
ABHD17A	0.579537209	0.919812	0.684364	1.236264
FAM217A	0.579645061	0.920337	0.686078	1.234582
PIK3C2A	0.580071982	0.920157	0.685244	1.235602
ACTL10	0.580340095	0.920801	0.687284	1.233661
HSBP1L1	0.580753746	0.920657	0.686575	1.234548
TMF1	0.580870246	0.92046	0.685844	1.235335
TMEM263	0.580934659	1.08616	0.809938	1.456584
C8orf82	0.581673444	0.919718	0.682901	1.23866
CYP2E1	0.582002243	0.920152	0.684192	1.237488
RASA2	0.582191229	0.919782	0.682837	1.238947
TAF1B	0.582546248	1.086354	0.808552	1.459604
PYGO1	0.582610042	1.086158	0.808885	1.458477
ECSIT	0.582654598	0.921017	0.686783	1.235138
CENPX	0.582884342	1.086303	0.808435	1.459677
CDH11	0.582943142	1.085759	0.809439	1.456405
SPRN	0.582980235	0.92118	0.687165	1.23489
SP3	0.583738049	0.920916	0.68586	1.236531
LZTS2	0.584465079	0.921218	0.686498	1.236191
COL27A1	0.585559515	0.920747	0.684301	1.238894
CSTB	0.586283214	1.08567	0.807491	1.45968
ZNF251	0.587395416	0.92203	0.687704	1.236199
SMDT1	0.587630809	0.921836	0.686908	1.23711
CCDC88A	0.587655488	1.084604	0.808687	1.45466
SST	0.588234284	0.922217	0.687894	1.236358

SMARCAD1	0.58834311	1.084345	0.808754	1.453847
LY6G5B	0.588688367	0.920992	0.683434	1.241123
TARBP2	0.589531589	1.084301	0.808085	1.454931
SMIM26	0.589878577	1.084305	0.807855	1.455356
GMPPA	0.589952694	1.085476	0.805511	1.462748
PMF1	0.590162121	1.084015	0.808244	1.453877
TNRC6B	0.591326084	0.922595	0.687524	1.23804
CBWD6	0.591668095	1.083957	0.807394	1.455253
HK1	0.592208456	0.922488	0.686671	1.239291
BCLAF1	0.593436323	1.083209	0.807744	1.452614
UHRF1BP1L	0.594212343	1.083166	0.80733	1.453245
HIST1H4B	0.594405267	1.08282	0.807899	1.451293
GABPB2	0.594830105	1.08311	0.807044	1.453611
BTBD7	0.596135233	0.923507	0.688063	1.239516
SLC5A3	0.596611313	0.923911	0.689219	1.238522
RNF215	0.597112805	1.082188	0.807427	1.450448
STX10	0.597690511	0.923361	0.686691	1.2416
CNPY2	0.598650006	0.924031	0.688514	1.240111
IMP3	0.598654139	1.082334	0.806133	1.453169
GADD45GIP1	0.599311393	1.082174	0.806032	1.452921
UBR5	0.59958246	0.924223	0.688673	1.24034
SLC25A28	0.600252641	0.924313	0.688616	1.240682
AP001931.1	0.600760924	0.924186	0.687888	1.241657
KLF11	0.601477023	0.924891	0.68998	1.239778
ZNF688	0.601487825	0.92383	0.686222	1.243711
DDB1	0.601511755	1.082189	0.804564	1.455613
DDRGK1	0.602405969	0.924869	0.689386	1.240789
KLRC4-KLRK1	0.60244283	0.925072	0.690087	1.240073
TMED2	0.602709998	1.081316	0.805573	1.451443
ZNF771	0.603841255	1.081496	0.804459	1.453937
NPHP3	0.604175634	0.925028	0.68896	1.241982
NECAB3	0.604219954	0.925334	0.690028	1.240883
SUGP2	0.604733246	0.924002	0.684998	1.246396
CCDC12	0.605190632	0.925208	0.689034	1.242335
NUDT13	0.605942336	0.925556	0.689854	1.241791
CEP131	0.606012816	1.080586	0.804919	1.450664
ZBTB1	0.606177541	0.924963	0.687601	1.244263
TRIP11	0.606837692	1.080269	0.805039	1.449596
CYP39A1	0.606891185	0.925861	0.690411	1.241607
ZNF114	0.606914878	1.080216	0.805098	1.449348
HNRNPUL2	0.607183365	1.080598	0.804123	1.452131
POLR2J	0.607924236	1.080179	0.804511	1.450304
TNFRSF1A	0.608254103	1.080986	0.802598	1.455936
ATG4D	0.608830445	0.926038	0.689951	1.242909

HUS1	0.609589313	1.079382	0.805092	1.447121
PHACTR2	0.609674866	0.926601	0.691501	1.241631
BDP1	0.610053877	1.079313	0.804932	1.447222
MAP4K3	0.610149701	1.079615	0.804228	1.4493
ATR	0.610234214	1.079394	0.804639	1.447968
RWDD2A	0.610463775	0.926621	0.691127	1.242357
ARGLU1	0.611091	1.07971	0.803401	1.451047
CSNK1A1	0.612306354	1.078851	0.804423	1.446898
ZFP37	0.612329701	0.926779	0.690638	1.243661
HIST1H2BH	0.61336876	1.078723	0.803992	1.447331
MORC3	0.613581869	0.926908	0.69039	1.244455
RIN2	0.614149691	0.927346	0.691657	1.243348
LBHD1	0.614172548	0.926745	0.689458	1.245698
SNRNP35	0.614455842	1.078348	0.804074	1.446178
TPST1	0.614821354	1.078179	0.804194	1.445508
UCP3	0.614966636	0.927573	0.692019	1.243307
SPTY2D1-AS1	0.615318816	0.927256	0.690659	1.244903
SLC4A7	0.615554921	1.078617	0.802758	1.449271
ENOX2	0.615941714	1.078288	0.803208	1.447577
RAMP1	0.61617854	0.92719	0.68992	1.246058
TP53I13	0.616824808	1.077714	0.803863	1.444858
VPS13A	0.617288269	0.927377	0.689963	1.246485
NEK7	0.617891795	0.928006	0.691922	1.244643
JAK1	0.618646223	1.078025	0.80196	1.449122
VMAC	0.618734341	0.927016	0.687798	1.249435
AMOTL1	0.61913456	1.07734	0.803131	1.445172
GDF9	0.619159422	0.928466	0.692882	1.24415
AGAP9	0.619293906	1.077671	0.802298	1.447561
PRR14L	0.619716692	1.077209	0.803027	1.445006
STK36	0.619927234	0.928023	0.690802	1.246706
MTG1	0.620033285	0.928232	0.691512	1.245987
HIST1H3I	0.620184277	1.077504	0.802061	1.44754
CTNNAL1	0.620287467	1.07756	0.80187	1.448034
IDH3A	0.620522975	1.07723	0.802436	1.446128
OSBPL8	0.620697103	0.927339	0.687834	1.250241
AAK1	0.620710122	0.92764	0.688933	1.249056
LNPEP	0.621098928	0.928312	0.691185	1.246791
FBN1	0.621111765	1.077318	0.801845	1.447429
TAX1BP1	0.621120002	1.077196	0.802108	1.446627
ARSB	0.621716001	0.928885	0.692947	1.245156
FGF21	0.621718095	1.076879	0.802403	1.445245
NPRL3	0.621908172	1.077143	0.801689	1.447243
ANAPC11	0.622059859	1.077333	0.801165	1.448699
ZNF611	0.62212646	0.928422	0.69099	1.247437

KCNIP2	0.622731989	0.928958	0.692627	1.245928
QTRT1	0.622928987	0.928152	0.689519	1.249373
LIN7C	0.623252883	1.076351	0.802536	1.44359
SWSAP1	0.623854778	0.92835	0.689707	1.249565
RRNAD1	0.625081835	0.929348	0.692699	1.246843
ZNF562	0.625186817	0.928951	0.691157	1.248558
EDRF1	0.626755223	0.929619	0.692727	1.24752
AZIN1	0.626924844	1.076772	0.799079	1.450966
AL355102.2	0.627037518	0.929928	0.693719	1.246565
ZNF337	0.627039858	0.928233	0.687378	1.253483
ZRSR2	0.627845592	1.078782	0.793922	1.465851
ASXL2	0.629147062	0.929564	0.691099	1.250312
RBM25	0.629779173	1.075145	0.800797	1.443482
SLC25A10	0.630347846	0.928691	0.687098	1.255232
EPS8L2	0.630958231	0.930272	0.692688	1.249345
RPL38	0.63099717	1.075282	0.799642	1.445934
EDC3	0.631019746	1.075419	0.799313	1.446899
COG5	0.6311247	0.930448	0.693254	1.248797
AIDA	0.631169255	1.075075	0.799997	1.444738
RPN2	0.631378502	1.074871	0.800321	1.443604
NDUFA5	0.632199601	0.930749	0.693754	1.248706
TRMT1	0.633357379	1.07398	0.801007	1.439978
RABEP2	0.634596519	0.931099	0.693644	1.249841
CLK1	0.634964394	0.93062	0.691595	1.252255
HEXDC	0.635069665	0.930713	0.691888	1.251977
HDAC9	0.635327909	0.931349	0.694158	1.249587
PMF1-BGLAP	0.635688496	1.073544	0.800407	1.439887
ANKAR	0.635691456	0.931367	0.694009	1.249905
TTC37	0.635867133	1.073528	0.80032	1.440001
FAM46A	0.636031853	0.931133	0.692909	1.251261
FAM19A2	0.636678003	1.07343	0.799984	1.440344
CRTC3	0.63668983	0.931723	0.694772	1.249487
CNOT4	0.637819922	0.932016	0.695213	1.249479
CRACR2B	0.638500038	1.07374	0.797977	1.444799
TBC1D12	0.63872578	1.073405	0.798607	1.442759
AC244197.3	0.638730684	1.074652	0.795665	1.451461
PTDSS2	0.638976834	0.932272	0.695497	1.249655
NUP205	0.639061297	1.073369	0.798457	1.442935
TMEM140	0.63942508	1.072952	0.799187	1.440498
GABRR2	0.640087393	0.931843	0.693162	1.25271
TIFA	0.640109366	1.072578	0.799594	1.43876
PDE6A	0.641034498	1.072432	0.799292	1.438911
VPS16	0.641615568	1.072642	0.79838	1.44112
SFXN4	0.641811381	0.932709	0.69546	1.250892

TAF5L	0.642113141	0.932728	0.695349	1.251143
TMEM134	0.642239096	0.932831	0.695672	1.250838
ACVR1	0.64327967	1.072134	0.798422	1.439678
LENG1	0.643522288	0.932413	0.693256	1.254074
TMEM222	0.643655579	0.93299	0.695421	1.251716
SPTBN1	0.643786995	1.072006	0.79837	1.439428
C10orf35	0.644496813	0.932042	0.691206	1.256792
TRAPPC11	0.645026355	0.93346	0.696416	1.251189
FBRSL1	0.645142961	0.93295	0.694346	1.253547
PPAN	0.645205262	1.07156	0.79844	1.438105
MAN1A2	0.645613146	1.071454	0.798408	1.43788
MRPL58	0.646598893	0.933142	0.694193	1.25434
TSGA10IP	0.64719444	0.933849	0.696602	1.251896
ICMT	0.6482382	0.932127	0.689183	1.260711
YIPF4	0.648471192	0.934099	0.696796	1.25222
TES	0.648716285	1.071407	0.796301	1.441557
MITF	0.648797246	1.070825	0.797673	1.437514
ACSF3	0.649597993	0.934001	0.695704	1.253921
PRR25	0.64975122	1.072355	0.793223	1.449711
CRYBA1	0.650567106	0.933992	0.69506	1.255059
LRRC8E	0.650750075	0.934518	0.697033	1.252916
TMEM175	0.651153482	0.934231	0.695636	1.254659
NAXE	0.651635005	1.069776	0.798235	1.433688
EME2	0.652238542	1.071011	0.794722	1.443353
METTL26	0.65262811	0.933993	0.69376	1.257414
WDR92	0.653215803	0.934574	0.695699	1.255467
PLA2G6	0.653365745	0.934651	0.695914	1.255288
XAB2	0.653566452	0.934791	0.696345	1.254886
SDC4	0.653902226	1.069872	0.796356	1.437328
ZNF443	0.654109437	0.933947	0.692633	1.259336
PBOV1	0.654218772	1.070015	0.795767	1.438778
ZNHIT1	0.654313731	0.934871	0.696192	1.255377
WAPL	0.654603827	1.069801	0.796025	1.437736
TTC4	0.654610016	1.071996	0.790521	1.453694
PTGES2	0.655830322	1.069257	0.796502	1.435414
MIOS	0.656831914	1.068925	0.796615	1.434319
MACROD1	0.657483575	1.068992	0.795967	1.435667
KLHDC2	0.657875144	0.935372	0.695934	1.257191
VPS41	0.659934459	1.06832	0.79589	1.434001
XRN1	0.660041341	0.936044	0.69726	1.256603
U2AF1L5	0.660530801	0.936536	0.698947	1.254886
MRPL38	0.661068468	0.936215	0.697295	1.257
EFCAB2	0.661689814	1.067911	0.795653	1.43333
KRTAP5-1	0.66177603	0.936162	0.696616	1.258079

MRPS21	0.662048518	0.936386	0.697355	1.257348
TACR3	0.662135022	0.936586	0.698117	1.256513
SERINC1	0.662420071	0.936827	0.698918	1.255719
MET	0.663469936	1.067974	0.794171	1.436173
SMG8	0.663654915	0.936696	0.697579	1.257777
FASTK	0.663730757	0.936435	0.696462	1.259094
POLR2J2	0.664269196	0.937075	0.698738	1.256709
RAB7A	0.665076767	1.067298	0.794743	1.433324
TTC14	0.665751533	0.937063	0.697719	1.258511
CEP295NL	0.666137109	0.936772	0.696267	1.260352
CSNK1G1	0.66722134	1.066446	0.795391	1.429872
APLF	0.667314641	1.06664	0.794808	1.431441
SETX	0.667666976	0.937039	0.696358	1.260905
RSL24D1	0.668143021	1.067567	0.791726	1.439512
EP400NL	0.668253165	0.937808	0.699162	1.257913
GDAP2	0.66855718	1.066305	0.79477	1.430611
ZNF594	0.669234465	1.066108	0.794786	1.430054
ABL2	0.669562638	1.066114	0.794526	1.430536
TCF4	0.669693196	0.938195	0.699824	1.25776
CDK10	0.669793594	0.938001	0.698948	1.258816
PRKRIP1	0.669799615	0.937876	0.698421	1.259428
ZBTB25	0.670638645	0.938293	0.699605	1.258415
C17orf49	0.670951517	0.938347	0.699627	1.258522
HIST1H4J	0.671077045	1.065601	0.794764	1.428732
RPAP2	0.671597933	0.937477	0.695557	1.263538
PLXNB1	0.67174379	0.938104	0.698081	1.260655
ZDHHC4	0.67253432	1.065782	0.793174	1.432082
HIST1H3C	0.672855782	0.938558	0.699244	1.259777
NLRP6	0.673300088	1.065675	0.792882	1.432322
FBXW7	0.673343115	1.066448	0.790753	1.438264
NDUFA3	0.674216329	0.939054	0.700423	1.258985
WDR7	0.674403404	0.939095	0.700473	1.259007
SFRP1	0.674810526	1.064883	0.793891	1.428376
KDM6B	0.674902213	0.938692	0.698433	1.261599
FAM200B	0.675263682	0.939063	0.699757	1.260206
AL133352.1	0.675400427	0.938323	0.696539	1.264034
MRPL55	0.675995354	0.93923	0.699974	1.260265
AC005020.2	0.676762105	1.065206	0.791511	1.433541
OTUD4	0.676782927	0.939633	0.701154	1.259223
MOSPD3	0.677341329	0.93926	0.699194	1.261754
MYLK	0.679001401	0.938773	0.695987	1.266251
MKLN1	0.679068785	0.938806	0.696083	1.266167
GPAA1	0.679223345	0.9397	0.69979	1.261859
APBB2	0.679988578	0.939765	0.699543	1.262478

MTX1	0.680065462	1.06387	0.792668	1.42786
HSBP1	0.680385049	0.940014	0.70034	1.26171
ARHGAP17	0.680793757	0.940388	0.701667	1.260325
SYVN1	0.68174702	0.940334	0.700785	1.261767
TANGO6	0.681847505	0.940586	0.701805	1.260611
GNB2	0.682125865	0.93984	0.698398	1.26475
CCDC24	0.682637788	0.940414	0.700519	1.262462
NOTCH2NL	0.68273046	0.940627	0.701377	1.26149
RAB31	0.683143186	1.063193	0.792188	1.426907
CCZ1B	0.68340182	1.062774	0.793174	1.424012
CBWD3	0.683845862	0.940479	0.699966	1.263633
MSN	0.684371621	1.062745	0.792502	1.425141
MAP10	0.685064339	0.941085	0.701756	1.262037
PPP1R18	0.685445206	1.062362	0.792763	1.423644
PARP14	0.685721647	1.062767	0.791387	1.427208
NDUFS8	0.686179792	1.062907	0.790624	1.428962
NARFL	0.686832799	1.062652	0.790843	1.427879
DMXL2	0.687377519	0.941358	0.701338	1.26352
PRDM5	0.687457751	1.062219	0.791598	1.425355
CASTOR2	0.687588718	0.939343	0.69242	1.27432
RTEL1-TNFRSF6B	0.687907807	1.06343	0.787752	1.435584
HID1	0.68815129	1.062067	0.791492	1.425138
TULP4	0.688871545	1.06191	0.791378	1.424922
ELMO3	0.689388395	0.941882	0.702233	1.263315
AL161911.1	0.689854281	0.941968	0.702287	1.26345
USP25	0.689902118	1.061354	0.792182	1.421987
MYO5A	0.689911996	1.062295	0.789434	1.429468
HIST1H2BL	0.690545836	1.061345	0.791701	1.422826
ZNF195	0.690964075	0.942225	0.70264	1.263503
MDM4	0.691040981	0.942177	0.702375	1.263851
KCTD18	0.691489732	0.942328	0.702728	1.263623
PPIB	0.691493886	0.942196	0.702138	1.264328
GPR88	0.691625614	0.941673	0.699735	1.267264
TMEM238	0.693267557	0.942699	0.703118	1.263915
TAS2R43	0.693472488	0.942697	0.702965	1.264186
SH3D19	0.693516702	0.942764	0.703231	1.263886
AC055811.2	0.693547739	0.942438	0.70176	1.265661
CRYBG3	0.693662064	0.94256	0.702218	1.265161
USF1	0.69397496	1.060662	0.790989	1.422276
CDK5RAP3	0.694024084	1.060749	0.790694	1.423039
MAPK10	0.694088682	0.941823	0.698638	1.269657
PRRG4	0.694504975	0.942381	0.700823	1.2672
INAFM1	0.694591842	1.060858	0.789912	1.424741

LRP5L	0.69472883	1.061139	0.788968	1.4272
AHSA2	0.69482478	0.942562	0.701398	1.266645
INTS2	0.695029252	0.941962	0.69858	1.270138
USP38	0.695395385	1.060986	0.788885	1.42694
OSBPL11	0.695718	1.060803	0.789169	1.425934
GLI4	0.695900065	0.943001	0.702591	1.265672
PRPS1	0.69676623	0.943382	0.703684	1.264729
PIM1	0.696973568	1.060288	0.789697	1.423599
CORT	0.697590107	1.060142	0.789639	1.423311
C2CD4D	0.697711948	0.943311	0.702683	1.266338
CDC40	0.699878448	0.943366	0.701364	1.268869
STAG2	0.700020203	0.943886	0.703618	1.2662
DDX39A	0.700164924	1.059169	0.790504	1.419144
11-Sep	0.700455873	1.059274	0.789948	1.420424
TBL1XR1	0.701396914	1.059722	0.78781	1.425484
MAP7D1	0.701498395	0.944214	0.704038	1.266325
C5orf63	0.701564328	1.059416	0.788608	1.42322
FBXL3	0.701567968	0.944229	0.704053	1.266336
CLSTN1	0.702809897	0.94431	0.703519	1.267516
ARL2BP	0.703851483	0.944783	0.704923	1.266258
BSCL2	0.705034077	0.944681	0.703587	1.268389
POFUT1	0.705205121	1.059333	0.785853	1.427984
HIST1H2BE	0.705415728	1.058143	0.789382	1.418409
RPS28	0.705690344	0.944593	0.702694	1.269763
USP45	0.705797329	1.058127	0.789114	1.418848
MT-ND4	0.705953664	1.058312	0.788408	1.420617
AP5Z1	0.706168759	1.058267	0.788372	1.420559
SLFN12L	0.706301597	0.94395	0.699283	1.274221
SRCAP	0.706474192	0.944848	0.703292	1.269371
TMED4	0.707029401	1.05841	0.787209	1.423041
DDX18	0.707328587	0.944974	0.703239	1.269804
FIGNL1	0.707358764	1.058064	0.788021	1.420645
GNA12	0.707833865	1.057624	0.789011	1.417683
NARF	0.708813323	1.05746	0.788715	1.417776
SPDYA	0.709167137	0.945505	0.704336	1.269253
TMEM259	0.709538235	0.945654	0.704751	1.268904
CDKL5	0.709554509	1.057953	0.786534	1.423034
ZFYVE16	0.710064783	1.057215	0.788452	1.417592
ERLIN1	0.711256656	1.058261	0.784114	1.428258
DSE	0.712768487	1.057139	0.78642	1.421049
ZBED5	0.713350362	0.946333	0.705072	1.270149
NBPF12	0.714052502	0.946053	0.703217	1.272747
RNF113A	0.714087159	1.057013	0.785705	1.422004
IFI27L1	0.714652204	1.056375	0.787291	1.417427

BRD8	0.714722065	0.946586	0.705227	1.270549
UBL7	0.71610193	0.946781	0.7051	1.271302
M6PR	0.716529095	1.056202	0.786257	1.418826
SNRNP70	0.71670548	1.055932	0.786992	1.416775
GIGYF1	0.71726949	0.946928	0.704904	1.272049
CDK14	0.717458738	1.055575	0.787524	1.414862
NFKBIL1	0.71751156	0.947283	0.706416	1.27028
SLC39A3	0.718757764	1.055639	0.786199	1.417418
TOP2B	0.720103957	1.055041	0.787026	1.414326
ERVW-1	0.72022104	0.947485	0.705292	1.272844
CCDC159	0.72071512	0.947183	0.703456	1.275355
SPDYE3	0.720999694	1.057161	0.7792	1.434279
RPUSD1	0.721204834	1.055406	0.784854	1.419222
ZNF692	0.721941498	0.947876	0.705844	1.2729
STK25	0.722062134	1.055202	0.784793	1.418782
ARHGAP8	0.722337883	0.948249	0.707343	1.271202
CBLL1	0.722467898	1.05591	0.782062	1.42565
PRMT3	0.72272392	0.947561	0.703702	1.275926
C11orf65	0.723480045	0.948306	0.706731	1.272458
NCAPH2	0.723646061	1.054432	0.786004	1.414532
SPTY2D1	0.723773355	0.947934	0.704687	1.275146
ZNF264	0.724018037	0.947929	0.704468	1.275528
SLC9A6	0.724096214	1.054316	0.786008	1.414211
HIF1A	0.724224578	1.054652	0.784754	1.417375
TCEAL8	0.724397701	1.0548	0.784102	1.418952
LHX4	0.724940768	0.948307	0.705583	1.274528
KLF12	0.725001492	0.948556	0.706755	1.273084
KLC1	0.725612362	0.948612	0.706549	1.273606
RFK	0.725842053	1.053801	0.786238	1.412418
COX6C	0.726807202	1.053899	0.785051	1.414817
MT1G	0.727235969	1.053714	0.785312	1.41385
BTBD8	0.727454924	0.948525	0.704654	1.276797
WDR82	0.727483207	0.948926	0.706608	1.274342
ECI1	0.728417114	1.054015	0.783224	1.418429
RBBP8NL	0.72855472	0.948885	0.705551	1.276143
PDS5B	0.72900892	1.0532	0.785523	1.412092
CMTR2	0.72922146	0.949306	0.7071	1.274476
UTP20	0.729310538	0.949332	0.707157	1.274443
POMK	0.729404094	1.053733	0.78332	1.417496
EFNB2	0.729601631	1.053077	0.785426	1.411936
NDUFS7	0.729701373	0.949641	0.708381	1.27307
C8orf44	0.730463763	0.949591	0.707521	1.274484
STK4	0.730485575	1.053703	0.782455	1.418983
LTN1	0.730695281	0.949417	0.706465	1.275919

CRYGD	0.731021129	0.949768	0.707957	1.274173
PHACTR4	0.731129197	0.949642	0.707239	1.275128
NDUFV1	0.731581117	0.949568	0.706504	1.276255
B3GAT3	0.731953541	1.052539	0.785216	1.410871
ZNF358	0.732810326	1.052676	0.783966	1.413488
CTTNBP2NL	0.733164664	1.052548	0.784099	1.412905
PMVK	0.733601033	1.052478	0.783957	1.412972
TMEM60	0.733854329	1.052331	0.784248	1.412055
NRP2	0.73439447	1.052121	0.78451	1.411018
GALK1	0.734850696	1.052277	0.783541	1.413183
DNAH14	0.734924916	0.950385	0.707891	1.275948
ZNF800	0.735023861	0.950501	0.708394	1.275351
PQBP1	0.735047625	0.95017	0.706703	1.277514
ZNF460	0.735064254	0.950052	0.706094	1.278299
DAZAP1	0.735222667	1.051894	0.784573	1.410296
LRRC39	0.736121251	1.051873	0.783834	1.411569
PLEKHA8	0.736501736	0.950822	0.708813	1.275459
SLC25A46	0.736662782	1.052188	0.782211	1.415346
SPATA25	0.736926659	1.051946	0.782839	1.413561
APBB3	0.737124989	0.950577	0.707056	1.27797
AL136295.4	0.737556413	0.951016	0.708938	1.275757
SCAF8	0.737746585	1.051431	0.78395	1.410176
HIST1H1B	0.73804512	0.950837	0.70762	1.277651
ZNF543	0.738622375	1.051335	0.783497	1.410735
ZNF35	0.738644959	1.051634	0.782393	1.413526
INPP4B	0.738806487	1.051246	0.783653	1.410212
SRRM2	0.73914077	0.951107	0.708089	1.277529
JMJD7	0.73924134	0.951099	0.707966	1.27773
TOR1A	0.739817135	1.051087	0.783306	1.410412
ZNF354B	0.741145542	1.051814	0.779418	1.419408
KCNJ13	0.74202808	1.050412	0.78375	1.407805
ZNF699	0.742268435	0.950748	0.703616	1.284682
IDS	0.742282231	1.050456	0.783355	1.40863
VAMP7	0.742459767	0.951937	0.709599	1.277036
CEPT1	0.742805925	1.050519	0.782635	1.410095
LRIT3	0.742857026	1.051021	0.780729	1.414889
BCAP29	0.743268786	1.051071	0.78016	1.416056
ZNF28	0.743458942	1.05013	0.783474	1.407543
CIZ1	0.743462317	0.952137	0.709799	1.277215
RNF207	0.746250104	0.952504	0.709353	1.279
SHQ1	0.746595247	0.952553	0.709316	1.2792
AFF4	0.747286235	0.953017	0.711173	1.277103
SF3B5	0.747605452	1.049506	0.781938	1.408633
ZNF267	0.747618588	1.049502	0.781944	1.40861

HYAL4	0.74801592	0.952803	0.709419	1.279686
NADSYN1	0.748271218	0.952738	0.708853	1.280532
ARHGEF12	0.748303527	1.04948	0.781377	1.409574
AKAP11	0.748687372	0.95299	0.709829	1.279448
PRPF39	0.749015686	1.049004	0.782518	1.406241
HEATR9	0.749123864	0.952739	0.708122	1.281856
PAN3	0.750929954	0.95353	0.710771	1.279203
ARL5A	0.751101018	0.95367	0.711371	1.278499
ZNF587	0.751550223	1.048537	0.781907	1.406088
CBL	0.751704308	0.953779	0.711431	1.278683
PPIP5K2	0.752046936	0.953678	0.710589	1.279925
TGM4	0.752611698	0.953592	0.709637	1.281413
NT5C	0.752777326	1.048376	0.781358	1.406643
RALY	0.753732679	0.953593	0.708653	1.283193
ZNF511	0.753762419	0.954176	0.711776	1.279128
PHKG2	0.753900252	0.953461	0.707795	1.284394
SIRT6	0.753992177	0.954133	0.711339	1.279797
DENND4C	0.754006337	0.954017	0.710699	1.280638
DHRS4L2	0.754492436	1.048139	0.780629	1.407321
SPARC	0.754883759	1.047859	0.781352	1.405266
PPP1R12A	0.755432852	1.048733	0.777381	1.414803
TBC1D14	0.75564309	1.047895	0.780474	1.406945
MFSD3	0.755692416	1.04791	0.780366	1.40718
HNRNPH1	0.756042209	1.04784	0.7803	1.407111
HIST1H3A	0.75726871	0.954767	0.711895	1.280497
SERINC3	0.757803635	0.954519	0.710059	1.28314
DUS1L	0.75783001	0.954853	0.711867	1.280779
UBE2L5P	0.757848099	1.047259	0.78085	1.40456
USP9X	0.758860439	1.046951	0.781092	1.403299
TXNRD2	0.759018623	1.047156	0.780113	1.405613
TRMT61A	0.760574286	0.955355	0.712173	1.281574
ANKRD16	0.761228568	1.0465	0.780584	1.403005
ZNF224	0.761263021	0.955538	0.712569	1.281353
ZNF736	0.761601147	0.955701	0.713173	1.280706
PTP4A2	0.761671924	1.047287	0.77695	1.411686
RPL37	0.76180839	1.046564	0.77975	1.404675
LCOR	0.762463625	0.955626	0.711971	1.282666
GNPTG	0.76288466	1.046512	0.778888	1.406092
ZNF346	0.763299154	1.046903	0.776875	1.410786
PTPRK	0.763385244	1.04647	0.778562	1.406566
C16orf72	0.763406359	1.046149	0.779858	1.403366
FNIP1	0.76381035	0.955955	0.712583	1.282446
LRRC40	0.764056899	0.955796	0.711466	1.284034
MFSD10	0.764282022	1.045986	0.779651	1.403305

TELO2	0.764399823	0.956004	0.712318	1.283056
TLN1	0.765030808	1.045974	0.77895	1.404533
CIR1	0.765276089	1.045618	0.780178	1.40137
TM2D3	0.765817896	1.045504	0.780109	1.401186
HIST1H2AB	0.766201485	1.045575	0.779428	1.402602
MPV17	0.76633744	1.045841	0.778181	1.405564
FBXL5	0.767518265	1.045868	0.776867	1.408013
EDF1	0.768303736	1.045151	0.779073	1.402104
GNRHR	0.768362231	1.045151	0.779013	1.402211
DNAH11	0.769734208	1.044883	0.778747	1.401971
TRMT2A	0.769794309	0.957242	0.714357	1.282709
EIF4A1	0.769941762	0.957054	0.713141	1.284392
ZNF669	0.77012484	0.957163	0.713596	1.283865
SLF2	0.770353102	1.044694	0.778921	1.40115
UBL5	0.770647382	0.95721	0.713373	1.284392
LPP	0.770809496	0.957326	0.71389	1.283774
C19orf60	0.770862729	1.044692	0.778405	1.402073
R3HCC1	0.770884632	0.957076	0.712377	1.285827
C19orf70	0.770889118	0.956866	0.71117	1.287446
FAM26E	0.771024541	0.957452	0.714415	1.283168
WDR90	0.771243858	1.044668	0.778114	1.402535
ALKBH7	0.772137257	1.044613	0.777425	1.403631
C1orf74	0.77220441	0.95754	0.713808	1.284494
CNNM4	0.773016733	0.957511	0.712868	1.286109
SOWAHB	0.773404128	1.044147	0.778122	1.40112
TM7SF2	0.773589724	0.957863	0.71437	1.284349
CAVIN1	0.773635457	0.957943	0.714796	1.2838
ARHGAP5	0.773772283	1.043891	0.778848	1.399128
ZNF410	0.773929258	0.957334	0.710971	1.289067
FBXO8	0.774263321	1.043904	0.778282	1.400181
ARHGAP29	0.774482098	0.958049	0.714605	1.284426
FRK	0.774608951	1.043819	0.778292	1.399934
MAGIX	0.774654925	0.957174	0.709338	1.291602
TRPV1	0.774687426	1.043829	0.778167	1.400188
ZNF514	0.775043483	0.958105	0.714396	1.284951
ELF4	0.775479614	1.043618	0.778264	1.399445
METTL14	0.775482058	1.043724	0.777794	1.400578
CENPT	0.776131112	0.958294	0.714466	1.285335
NBEAL2	0.776712562	0.958186	0.713267	1.287205
NOXA1	0.776729317	0.958301	0.713931	1.286318
ENO1	0.776855838	1.044194	0.774287	1.408187
MAP3K2	0.778079461	0.958698	0.714969	1.285513
PIDD1	0.778111893	0.958505	0.713791	1.287115
TRAPPC1	0.778158338	1.043317	0.776767	1.401336

NAA60	0.778519324	0.958426	0.712924	1.288469
SUV39H2	0.778752192	1.043163	0.776821	1.400825
POM121C	0.779052654	1.0428	0.778123	1.397505
DGAT2L6	0.77945616	1.042789	0.777742	1.398162
MICB	0.779818846	1.042782	0.777391	1.398773
CLASRP	0.780534783	1.042595	0.777466	1.398138
KAT2A	0.780877597	0.959091	0.714578	1.287273
ZC3H13	0.781207652	0.958927	0.713265	1.289199
CCDC130	0.781818494	0.958583	0.710599	1.293108
CDK5RAP1	0.78200714	1.042285	0.77729	1.397624
SEC24B	0.782011033	0.959128	0.713679	1.288993
NAA16	0.782380913	0.958978	0.712408	1.290889
IARS	0.783043415	1.042271	0.77624	1.399474
RNF25	0.783239774	1.042062	0.776979	1.397584
CD44	0.784152212	0.959435	0.713392	1.290336
INTS6	0.784486436	0.959717	0.714768	1.288609
DDOST	0.78528892	1.04197	0.775175	1.400588
ZNF205	0.785582294	1.041926	0.775058	1.400682
FAM208A	0.78568828	1.041493	0.776944	1.39612
SNRPB	0.78590862	1.042109	0.773851	1.40336
ZNF749	0.786085463	0.960049	0.715188	1.288743
IL5	0.786151935	0.95997	0.714635	1.289527
ATXN2L	0.786453668	1.041423	0.776431	1.396855
MOB2	0.788223777	0.960258	0.714299	1.290908
POU5F2	0.788806747	0.960212	0.713419	1.292378
ANKRD36	0.789117455	0.960661	0.715881	1.289138
DECR2	0.78911816	0.960597	0.715483	1.289683
HRC	0.789401674	0.960674	0.715674	1.289546
ACBD4	0.789765448	0.960688	0.715385	1.290104
C19orf66	0.789888128	1.041321	0.773104	1.402592
ZNF335	0.789988037	0.960711	0.715298	1.290323
SYPL1	0.790247362	1.040908	0.774657	1.398669
ZNF277	0.79045653	0.961084	0.717143	1.288002
ZNFX1	0.79051279	0.961004	0.716585	1.288791
RAB3GAP2	0.790800414	1.040428	0.776317	1.394393
CHTOP	0.791615254	1.040399	0.775547	1.395699
LMNTD2	0.791765302	0.96099	0.715209	1.291235
ZMIZ1	0.791872633	1.040431	0.775109	1.396573
SELENOO	0.792183059	1.040322	0.775282	1.395969
SNX19	0.793012869	1.040257	0.77466	1.396916
ANKRD31	0.793215622	0.961543	0.717177	1.289171
LRRC49	0.793458496	0.961525	0.716811	1.289782
PDCL2	0.793563873	1.040059	0.774992	1.395786
HECA	0.794041539	1.039983	0.774819	1.395893

METTL2A	0.794376194	0.96162	0.716456	1.290677
LINC01125	0.794453412	1.040391	0.772376	1.401406
KCNV2	0.794453672	1.039773	0.775373	1.394334
ZNRF2	0.794486627	0.961697	0.716829	1.290212
CDC42	0.794658816	1.03987	0.774667	1.395864
KIF2A	0.795191748	1.039647	0.77515	1.394395
CNN3	0.796869004	1.03937	0.774595	1.394651
PCNX1	0.797341356	1.03926	0.774595	1.394357
HIST1H2AG	0.798082879	0.962419	0.717651	1.29067
SLC25A34	0.798515289	0.961625	0.712071	1.298638
ANKS3	0.798595793	0.962285	0.716238	1.292856
INO80E	0.80000234	0.962708	0.717469	1.291774
COX6A1	0.800357604	1.039106	0.771863	1.398876
PFKFB2	0.801112676	0.963005	0.71821	1.291237
HYPK	0.801152018	0.962653	0.715865	1.294519
ULK1	0.801765782	1.038459	0.773468	1.394238
ATP5J2-PTCD1	0.801817647	1.038362	0.773901	1.393196
IRF3	0.802036643	0.96314	0.718092	1.291811
FAM135A	0.802161958	1.038808	0.771231	1.399221
MIGA2	0.802688779	0.962608	0.713881	1.297994
DIS3	0.802797022	1.038551	0.771783	1.39753
UBE3A	0.803628236	0.962828	0.714294	1.29784
LINC00998	0.804246276	1.037898	0.773409	1.392836
SRRM1	0.804393256	0.963517	0.718001	1.292985
TNFRSF18	0.804560292	0.963523	0.717862	1.293254
TIAF1	0.805631408	1.037774	0.772396	1.394331
KIAA1522	0.805706515	1.03766	0.7729	1.393114
ACRBP	0.805933109	1.037468	0.773626	1.391293
KIAA0825	0.805948121	1.037369	0.774122	1.390136
EPS15	0.805990414	0.963836	0.718365	1.293188
PDIA6	0.807190018	1.03788	0.769967	1.399014
RPS9	0.807625686	1.037067	0.773694	1.390095
CTR9	0.808187447	0.964307	0.719084	1.293158
POLRMT	0.808305924	1.036976	0.773359	1.390452
AFF1	0.80934725	0.96451	0.719151	1.293579
RBM12B	0.81056971	1.036746	0.771823	1.392602
SLC35F5	0.810617277	1.036474	0.773224	1.389349
SEC11A	0.811130343	0.964852	0.719467	1.29393
RPL7L1	0.811626471	0.964537	0.716739	1.298006
ATP10D	0.811641762	1.036279	0.773019	1.389195
BHMG1	0.811835934	1.036663	0.770713	1.394383
TAF6	0.812427358	1.036652	0.770035	1.395582
FLAD1	0.812762561	1.036017	0.773056	1.388426
CCDC126	0.814002917	1.035991	0.771663	1.390863

AP4E1	0.814226925	0.965152	0.717968	1.297435
USP15	0.815168596	0.965307	0.717953	1.297881
TMEM208	0.816019751	1.035685	0.770819	1.391563
DYRK1B	0.816195594	0.965685	0.719391	1.2963
ZNF236	0.816445096	1.035379	0.771977	1.388655
TBXA2R	0.816653949	1.035407	0.77156	1.38948
NCOA6	0.816699856	0.965818	0.719741	1.296029
IL13RA1	0.817056012	1.035243	0.771963	1.388316
ORAI2	0.817128231	0.965995	0.720483	1.295167
PBX3	0.818551633	1.034875	0.772134	1.38702
DPPA5	0.818895575	1.034868	0.771736	1.387717
CHMP4A	0.819035604	0.965946	0.717872	1.299747
TMEM262	0.819187199	0.966261	0.719937	1.296866
IL21	0.819859841	0.966383	0.720001	1.297077
TCTE3	0.823730521	1.034115	0.769801	1.389181
RAB14	0.82486959	1.033793	0.770179	1.387636
PTCH2	0.825789342	0.966703	0.715042	1.306936
SLC35B4	0.826335782	1.033384	0.770651	1.38569
EPCAM	0.826974323	1.033268	0.770496	1.385655
TRAF5	0.82720316	0.967577	0.719715	1.300801
CYP51A1	0.827259924	0.967874	0.721853	1.297744
SRRD	0.827655003	1.033108	0.770544	1.38514
PHF13	0.827720328	0.967906	0.721514	1.298439
UBALD1	0.827758363	0.967946	0.721769	1.298089
TSSC4	0.828284478	1.033118	0.769643	1.38679
GTPBP10	0.828692807	0.967614	0.718115	1.3038
AP002990.1	0.828857427	1.032885	0.770274	1.385029
RRAGC	0.828998127	0.967752	0.718753	1.303012
KIRREL	0.829005387	1.033029	0.769208	1.387335
INO80B	0.829031189	0.967809	0.719136	1.30247
PPDPF	0.829187141	0.967844	0.719205	1.302441
FN1	0.830484837	1.033042	0.767124	1.391138
ZC2HC1C	0.830530374	1.032482	0.770457	1.38362
ZNF12	0.831294783	0.968563	0.721947	1.299422
COQ4	0.831319709	1.032484	0.769376	1.385568
APPBP2	0.831588339	0.968579	0.721695	1.29992
MIER1	0.831610374	1.032475	0.769033	1.386162
RPLP1	0.831693485	0.96869	0.722406	1.298938
PTPN21	0.832089817	1.032211	0.769999	1.383715
NIT1	0.832158243	0.968604	0.721155	1.300961
BAG5	0.832271626	0.968797	0.722483	1.299087
BRWD1	0.832279674	1.03215	0.770116	1.383342
CLK3	0.832386547	1.032292	0.769098	1.385553
KIFC3	0.832392947	1.032209	0.769595	1.384437

CCSER1	0.832432596	0.968826	0.722495	1.299142
FRMD4B	0.832514496	1.032175	0.769638	1.384269
SIVA1	0.832797711	0.968803	0.721849	1.300243
MAN2A1	0.83294073	1.03201	0.770075	1.383041
CLEC18C	0.833134346	0.968843	0.721722	1.300578
ULBP3	0.83322457	1.032192	0.768563	1.386249
C12orf40	0.833325876	0.969007	0.722734	1.299198
PLSCR4	0.833715147	0.969	0.722179	1.300177
AC022400.6	0.833879733	0.968645	0.719234	1.304545
MMGT1	0.834386224	0.969212	0.722945	1.299368
MRPS25	0.834807145	0.969219	0.722449	1.300278
IQGAP1	0.836181456	1.031606	0.768112	1.385488
FUNDC2	0.836186468	1.031706	0.767474	1.386908
NAA10	0.836998316	1.031339	0.768653	1.383798
SLFN5	0.8372491	1.031443	0.767638	1.385906
WASHC1	0.837340279	1.031283	0.768528	1.383873
CHIC1	0.837591254	0.969586	0.721646	1.302712
XKR9	0.837666044	1.031301	0.767956	1.38495
SMURF1	0.837811958	1.031243	0.768114	1.384512
AGPAT1	0.837894806	0.969853	0.723345	1.300367
PBRM1	0.838156833	1.03099	0.76925	1.381787
DOCK10	0.838642789	0.969503	0.719583	1.306223
HDAC10	0.838706297	1.031029	0.768218	1.38375
SIAE	0.838953293	1.030887	0.768781	1.382356
HIST1H4K	0.839449977	1.030772	0.768818	1.381982
LINC00238	0.840132284	0.970159	0.722783	1.302201
CUEDC2	0.840814522	1.030676	0.767491	1.384112
DNAJB14	0.841112091	1.030445	0.768568	1.381553
CTSB	0.841152243	0.970303	0.722557	1.302996
NOL4L	0.841345825	0.97052	0.724036	1.300915
AC011498.1	0.841964334	0.970486	0.722921	1.30283
BBX	0.842215744	1.030408	0.767216	1.383888
GNG3	0.842238508	0.970398	0.721839	1.304546
PUS1	0.842405659	1.030203	0.768296	1.381392
MIB1	0.843025774	1.030153	0.767727	1.382281
CDK13	0.843414331	0.970859	0.72396	1.30196
DYNAP	0.843593268	0.970861	0.723727	1.302384
MAML2	0.843891379	0.970942	0.723976	1.302154
TCTN3	0.844324742	1.030268	0.765055	1.387418
RABGGTA	0.845287084	0.971015	0.722643	1.304754
NKX6-3	0.845597558	1.030097	0.764299	1.388332
TYSND1	0.845677854	0.971291	0.724366	1.302388
PP2D1	0.845948607	1.029792	0.765837	1.384721
SCAND1	0.846474609	1.029714	0.765575	1.384987

CFAP44	0.846523277	0.970987	0.72067	1.308249
CLDND2	0.846558568	1.02975	0.765208	1.385747
TRIM4	0.846927127	1.02948	0.766488	1.382709
PJA2	0.847120343	0.971624	0.725108	1.301948
GSDMD	0.847806739	0.97167	0.724523	1.303122
MFAP3	0.847844284	0.971324	0.721585	1.307497
EIF2B4	0.84809139	0.971429	0.722105	1.306837
CCDC71L	0.848191023	1.029207	0.766466	1.382013
BATF	0.849227695	0.971895	0.724391	1.303963
UCN	0.850406572	0.972187	0.725178	1.303333
RNF113B	0.850743455	1.02883	0.7652	1.383285
H1FX	0.850883845	1.028728	0.765698	1.382113
YTHDF3	0.851781687	0.972091	0.722364	1.308151
SFT2D2	0.852879696	1.028105	0.767035	1.378033
RBFA	0.853097003	0.972275	0.722006	1.309296
AC013394.1	0.85345807	1.028149	0.76582	1.380338
SLC30A6	0.853509734	1.028202	0.765363	1.381303
CALR	0.853702587	0.972702	0.724795	1.305401
TOGARAM1	0.853842707	0.972749	0.724997	1.305165
HIPK1	0.853879031	0.97286	0.725905	1.30383
MRPL23	0.85421794	1.027992	0.765761	1.380024
SPINT4	0.854347966	1.02817	0.764277	1.383182
ZNF134	0.854510532	1.027847	0.766351	1.37857
F11	0.855494445	0.972268	0.718343	1.315951
NSL1	0.856133657	1.027757	0.764441	1.381775
ERP29	0.856180446	1.02756	0.765806	1.378783
B3GNTL1	0.856359954	1.027494	0.766007	1.378245
NOTCH2	0.85636608	1.027596	0.765254	1.379873
TRAF2	0.856674247	0.973291	0.72553	1.305661
ZBED8	0.857114351	0.973263	0.724613	1.307236
RBM33	0.857502683	0.973406	0.725293	1.306395
SAMD1	0.857631069	1.027329	0.7652	1.379254
PET117	0.857854465	1.027199	0.765802	1.377821
ISPD	0.858136213	1.027084	0.766207	1.376784
MACC1	0.858289103	0.973597	0.725806	1.305985
C9orf172	0.858289242	0.973532	0.72522	1.306864
AGAP6	0.858814841	0.973642	0.725407	1.306824
HIST1H2AH	0.858827787	0.973779	0.726612	1.305024
IFNAR1	0.858918918	1.027005	0.76554	1.377771
KIAA0907	0.859121616	1.026906	0.765957	1.376754
TAS2R10	0.859340718	0.973701	0.725125	1.30749
C12orf10	0.859415645	1.027178	0.763444	1.382019
CXXC1	0.860196619	0.973704	0.723835	1.309829
CTDSPL2	0.860580363	1.027412	0.759773	1.38933

TRIM66	0.860582543	0.973894	0.724953	1.308319
RIC1	0.860602138	1.026851	0.763967	1.380193
C1orf56	0.860747657	0.973924	0.72497	1.30837
RPS20	0.861086243	1.026539	0.76554	1.37652
RPS15	0.861416236	1.026461	0.765594	1.376214
MDN1	0.861638954	0.974262	0.726658	1.306236
RSAD1	0.861709601	0.974307	0.726956	1.30582
EXOC4	0.862968137	0.97411	0.723175	1.312118
SERF2	0.863081864	0.974477	0.726373	1.307326
RAD9A	0.863809008	0.974625	0.726592	1.307329
MUTYH	0.863983016	0.974602	0.726103	1.308146
HSPG2	0.864065182	0.97469	0.726786	1.307153
KBTBD4	0.864548428	0.974766	0.726727	1.307463
CCDC7	0.865025515	0.974873	0.726961	1.307328
TTPAL	0.865067755	0.974957	0.727681	1.30626
OXLD1	0.865095796	0.974912	0.727214	1.306978
PAQR7	0.865861057	1.026238	0.759863	1.385992
ARID2	0.865874473	1.025591	0.764936	1.375066
TMEM160	0.867197101	1.02556	0.762938	1.378581
MOGS	0.868001481	0.975489	0.727989	1.307135
SUFU	0.869024508	1.024964	0.764585	1.374015
ATG4B	0.869380144	0.97568	0.727554	1.308426
ARHGEF5	0.869637067	1.024913	0.763943	1.375033
BBS10	0.869915495	0.97557	0.725611	1.311636
GPR107	0.870823516	1.024938	0.761656	1.37923
SGK494	0.870941883	0.975933	0.727417	1.309354
PCBD2	0.871650705	1.024481	0.763968	1.37383
PAN2	0.872352942	0.976106	0.726736	1.311045
TMEM225B	0.872693281	1.024453	0.762353	1.376665
RPL13	0.872807595	1.024315	0.763304	1.37458
MCRIP1	0.873365442	1.024203	0.763253	1.374369
FAM151B	0.873707155	0.976436	0.727691	1.31021
HIST1H3G	0.874238978	0.976493	0.727349	1.310978
TBC1D23	0.874806029	0.97644	0.725835	1.31357
IFT46	0.874821075	0.976621	0.727621	1.310832
TTLL3	0.874840161	0.976484	0.726214	1.313002
C2orf16	0.875032797	1.024039	0.761638	1.376842
IFT43	0.875636326	0.976699	0.726994	1.312173
USP34	0.875748297	0.976751	0.727324	1.311717
CFAP97	0.875869937	1.023592	0.763949	1.371479
ILK	0.876262822	0.976943	0.728363	1.310359
TIMM44	0.876725057	0.977094	0.729092	1.309454
SETD4	0.878085739	1.023337	0.762095	1.374131
PTPN14	0.878444015	1.023348	0.761335	1.375532

RARS2	0.878686536	0.977448	0.729265	1.310092
AHNAK	0.879556502	0.977506	0.728314	1.311958
FDX2	0.880174782	1.022828	0.762694	1.371688
OLFML2A	0.881295569	1.022571	0.762891	1.370643
STK32C	0.881393847	0.977959	0.729742	1.310605
TROVE2	0.881482306	1.022788	0.760578	1.375394
PPCDC	0.881654741	0.977905	0.7287	1.312335
ELF1	0.882177687	0.977956	0.728283	1.313223
HIST2H3C	0.882209548	0.978101	0.729759	1.310955
AL138752.2	0.882853743	0.978033	0.727853	1.314206
GTF2IRD2	0.883859367	0.978205	0.727822	1.314723
MCC	0.884086534	1.022191	0.761005	1.373018
CPSF7	0.884541356	1.022054	0.76139	1.371957
STARD13	0.885067643	1.022054	0.760356	1.373822
B4GALT5	0.885681289	1.021749	0.76201	1.370021
QKI	0.887540601	0.978819	0.727519	1.316923
NDUFB8	0.888096749	1.021418	0.76034	1.372144
SPRED1	0.888293103	0.979092	0.72909	1.314819
GFER	0.888386392	1.021341	0.760499	1.37165
CXorf65	0.89009179	0.978911	0.723525	1.324443
NME1-NME2	0.890135813	1.020842	0.761806	1.367959
SPG7	0.890149477	0.979407	0.728988	1.315847
INO80D	0.890845734	1.020735	0.76141	1.368383
CLK2	0.891380061	0.979598	0.728727	1.316836
ERICH6B	0.892672147	0.979882	0.729395	1.316391
ARL16	0.893845583	0.980183	0.730513	1.315185
RPL37A	0.893861441	1.020162	0.760885	1.367788
BORCS6	0.893865361	0.979852	0.726605	1.321364
CLK4	0.894118304	0.980097	0.728948	1.317776
SLC25A11	0.894280183	1.020249	0.759099	1.371242
MED13	0.89453917	0.980104	0.728166	1.31921
PRSS48	0.894960213	0.980393	0.730703	1.315407
KHK	0.895440528	0.980553	0.731601	1.314219
ZNF845	0.895712698	1.019908	0.759548	1.369514
CCDC83	0.896285082	1.01972	0.760263	1.367724
RINT1	0.897006055	0.980538	0.728154	1.320401
SURF4	0.89795208	0.98098	0.731487	1.315569
EGFL7	0.898050927	1.019338	0.760448	1.366366
SFI1	0.898072594	1.01954	0.758253	1.370864
MFSD4B	0.898126747	0.981039	0.731834	1.315104
FGFBP3	0.899148522	0.981174	0.731303	1.31642
ATRX	0.899982627	1.019038	0.759395	1.367454
CCDC57	0.900780726	0.981442	0.731092	1.317519
ATP6V1A	0.901048475	1.018839	0.759162	1.367341

RAB24	0.90127071	1.018857	0.758463	1.368648
CHM	0.901372807	0.981582	0.73155	1.317071
CTNNA2	0.901438646	1.018774	0.758994	1.367468
FAM229A	0.901787879	0.98157	0.730479	1.318969
KLRC4	0.901798437	0.981579	0.730567	1.318834
PPP1R35	0.902068696	1.01873	0.758038	1.369076
D2HGDH	0.90222687	0.981778	0.732129	1.316554
CSAD	0.903098605	0.981763	0.730007	1.320342
MUS81	0.903715914	1.018244	0.759685	1.364803
ATP5G2	0.903766056	1.018336	0.758521	1.367147
COL10A1	0.904065982	0.982062	0.731652	1.318175
ZNF782	0.904933634	0.982165	0.731014	1.319603
ARHGAP12	0.905510829	0.98209	0.728713	1.323568
ANAPC15	0.906450019	1.017839	0.757889	1.366951
EXD3	0.907640549	0.982677	0.731478	1.320142
FAM160B2	0.907840031	1.017662	0.756609	1.368785
FKBP14	0.90840695	0.982943	0.733231	1.317698
ANKMY1	0.909318616	0.982995	0.731775	1.320461
ATP5H	0.909420923	1.017452	0.755214	1.370747
AGAP4	0.91010545	1.017039	0.758508	1.363689
CRYGS	0.910364645	1.017111	0.756985	1.366624
CDSN	0.910455646	1.016981	0.758346	1.363824
MDP1	0.910886245	0.983348	0.732824	1.319518
PEX11G	0.911342444	0.98351	0.733948	1.317929
SETD7	0.911428449	1.016846	0.757571	1.364856
SP4	0.912111083	1.016706	0.75757	1.364483
HEATR1	0.912605562	1.016845	0.754569	1.370284
STX16	0.913111555	0.983652	0.731576	1.322585
TRANK1	0.914097967	1.01651	0.75491	1.368764
ZNF444	0.914523196	1.016484	0.754124	1.37012
NCMAP	0.914569707	0.984002	0.732874	1.321182
CCER2	0.914826071	0.984038	0.732744	1.321514
ZNF8	0.914840611	0.984066	0.733111	1.320927
SPACA6	0.915168454	0.984187	0.734024	1.319609
SNX13	0.915261323	0.984181	0.73369	1.320191
TMPPE	0.916575769	0.984335	0.732546	1.322668
C1orf122	0.917383312	0.984436	0.731924	1.324063
UHMK1	0.917413394	1.015735	0.756171	1.364396
TMEM205	0.917458588	1.015712	0.756354	1.364005
SYCP3	0.917739619	0.984552	0.732711	1.322954
ORC3	0.917959572	0.984629	0.733276	1.322142
CMTM2	0.91863462	0.984852	0.734826	1.319951
CEP97	0.918765906	1.015553	0.754916	1.366175
ENGASE	0.919866307	1.015276	0.755633	1.364135

ANKRD36B	0.920862588	1.015043	0.75606	1.362739
KRTCAP2	0.922148861	1.014782	0.756072	1.362018
NDUFAF8	0.922790501	0.985589	0.734864	1.321857
EXT2	0.922812665	0.985544	0.73409	1.32313
MBD3	0.922825647	1.014679	0.755593	1.362603
TAS2R20	0.923029771	0.985623	0.734732	1.322186
STAU1	0.923099862	0.985545	0.733296	1.324565
QSER1	0.923370897	1.01459	0.755291	1.362908
ANKRD39	0.923551351	0.985633	0.733421	1.324577
ATP6V0A2	0.923675842	1.014481	0.755971	1.361391
B3GALNT2	0.923677402	0.985754	0.734997	1.322061
ZNF197	0.923890058	0.985835	0.735683	1.321044
U2AF1L4	0.924191796	1.014455	0.754837	1.363365
FBXW11	0.925004705	1.014316	0.75446	1.363673
IPO11	0.926238734	1.013999	0.755464	1.361011
FAM96B	0.926240283	0.986267	0.735954	1.321716
NOL12	0.926623669	0.986328	0.735836	1.322092
CCNL1	0.926867561	1.013823	0.756223	1.359172
WDR13	0.926947886	1.014065	0.752307	1.366901
C4orf45	0.927317296	1.013712	0.756541	1.358303
NOSIP	0.927708214	1.013651	0.756274	1.358621
CMTM6	0.927799232	0.98653	0.73573	1.322825
IFIT1B	0.927882527	0.986561	0.736002	1.322419
APITD1-CORT	0.927977974	0.986355	0.732236	1.328665
TMCC3	0.928709684	1.013468	0.756012	1.3586
ADAMTS13	0.928967871	0.986504	0.731735	1.329977
RAB5B	0.929188398	0.986805	0.736203	1.32271
HSPA8	0.929283881	0.986738	0.734772	1.325109
FAM160A2	0.929304785	1.01351	0.753496	1.363247
RBM14-RBM4	0.92932898	0.986734	0.734557	1.325485
AC023509.3	0.929371731	0.986773	0.735106	1.3246
ZNF407	0.930008507	0.986933	0.735902	1.323595
AL449266.1	0.930235998	1.01322	0.755115	1.359548
MAGT1	0.930498394	1.013209	0.754445	1.360726
CHST11	0.930739994	1.013083	0.7557	1.358126
FAM110A	0.931610237	0.987263	0.736688	1.323066
SLC50A1	0.931623067	1.012947	0.75505	1.358931
SRPK2	0.932644363	0.987221	0.732622	1.330296
APOL6	0.933327838	1.012627	0.754703	1.358698
NF2	0.933500155	0.987619	0.737064	1.323348
AHR	0.933511385	0.987559	0.73593	1.325227
MPHOSPH9	0.9337729	1.012699	0.751997	1.363783
FMO1	0.934403379	1.012446	0.754144	1.359219
SPOPL	0.934569528	0.987751	0.735982	1.325647

FAM3A	0.934819799	1.012312	0.755006	1.357308
WDR45	0.935097287	1.012405	0.752472	1.362127
RPLP2	0.93522716	1.012252	0.754647	1.357793
PARP10	0.935759482	0.988025	0.737131	1.324315
SGTB	0.936384666	0.988052	0.735509	1.327308
R3HDM2	0.936786952	1.012043	0.752861	1.360451
VPS28	0.936859705	1.011948	0.754282	1.357635
DEPDC7	0.937338085	1.011813	0.755008	1.355966
RABAC1	0.937664535	1.011807	0.753947	1.357859
NEURL4	0.938902927	0.988524	0.735877	1.327911
TRADD	0.938980411	0.988511	0.73534	1.328846
MBNL2	0.940036526	1.0113	0.754616	1.355297
MRPL57	0.940696024	1.011197	0.754113	1.355924
C20orf27	0.940893404	1.011124	0.754761	1.354562
LRRC45	0.941017291	1.011188	0.753077	1.357764
ATN1	0.941367419	0.989042	0.737392	1.326573
ANKIB1	0.941710686	0.98911	0.737526	1.326514
PRDX5	0.943179863	0.989364	0.737322	1.327564
CYP2R1	0.943197413	0.989368	0.737339	1.327543
CCDC14	0.944543616	0.989556	0.73615	1.330192
RB1	0.944592256	0.989647	0.737935	1.327219
DCAF8	0.945717804	0.989746	0.735647	1.331613
SLC35E1	0.946422017	1.01008	0.753906	1.353301
IGDCC4	0.946662173	1.010097	0.752557	1.355772
ZNF446	0.946905945	1.010091	0.751659	1.357375
KLHL7	0.946907464	0.990034	0.737268	1.32946
ILKAP	0.948061606	0.990297	0.738514	1.327922
RBM18	0.948278248	1.00975	0.753174	1.353731
ANKRD54	0.949179229	0.990523	0.739085	1.3275
FIS1	0.952352692	1.009029	0.751376	1.355033
USP47	0.952852337	0.991169	0.738655	1.330005
FAM222B	0.953241983	0.991128	0.735795	1.335065
CCDC84	0.953880416	0.991355	0.738641	1.33053
ANKZF1	0.955080575	1.008476	0.751841	1.352709
ZYG11B	0.955509683	0.991657	0.738822	1.331016
GLIPR1	0.956020883	0.991722	0.738054	1.332575
SMCHD1	0.956199429	0.991816	0.73974	1.329791
CERCAM	0.956679317	1.008197	0.750966	1.353538
AC011511.1	0.959178962	1.007736	0.750216	1.353654
MLANA	0.960071259	1.007547	0.750649	1.352364
TMEM161A	0.960157877	1.007509	0.751254	1.351171
NDUFA7	0.960573744	0.992623	0.740083	1.331336
IL27RA	0.961180116	1.007327	0.75076	1.351574
DHRS4	0.961640895	1.007248	0.750461	1.351899

IDO1	0.961927451	1.007144	0.751876	1.349078
ENOSF1	0.962166299	1.007142	0.750563	1.351433
FAAP100	0.962912822	0.993057	0.74033	1.332056
UTP23	0.962944294	1.00705	0.748757	1.354445
TMUB2	0.962977504	1.006965	0.751149	1.349904
RAB4B	0.963334832	0.99315	0.740854	1.331364
PYM1	0.963338484	0.99308	0.738566	1.3353
PYCR3	0.963382806	0.993118	0.739553	1.333621
PWWP2B	0.963580113	1.006873	0.750387	1.351028
DOCK7	0.963900813	1.006822	0.750027	1.351541
MZF1	0.964129141	1.0068	0.74934	1.352719
HOOK2	0.964590174	0.99322	0.735537	1.341178
FAM50A	0.96469672	1.006689	0.749341	1.352419
SPTAN1	0.964780474	0.993418	0.741024	1.331779
ATG16L2	0.9652958	0.993425	0.738026	1.337205
AKAP17A	0.965767496	0.993557	0.739599	1.334718
KPNA3	0.965825066	0.993531	0.738329	1.336944
GNAQ	0.965947053	0.993646	0.741539	1.331462
CHMP6	0.965964334	1.006414	0.750302	1.349949
OSTM1	0.966260742	1.00637	0.749842	1.350659
SPSB2	0.966918617	1.006246	0.749725	1.350537
ANKRD7	0.967423784	1.006148	0.749729	1.350268
TJP1	0.967683992	1.006136	0.748402	1.352628
AC072022.1	0.968550688	0.994052	0.738953	1.337217
ZMYM1	0.968752537	0.994081	0.738608	1.337916
ZNF92	0.969304439	0.994258	0.741516	1.333145
FOXO3	0.969511381	1.005738	0.75	1.348679
TACO1	0.970522692	0.994339	0.735797	1.343727
TEN1-CDK3	0.972256404	0.994802	0.741613	1.33443
DIP2A	0.972491741	0.994842	0.741503	1.334737
TMUB1	0.974186518	0.995137	0.740726	1.33693
AXL	0.974338281	1.004836	0.748922	1.348198
IKZF2	0.974762375	0.995279	0.74236	1.334365
FEM1C	0.974840334	0.995273	0.74141	1.33606
PYCR1	0.974992742	0.995325	0.742556	1.334137
PPP1R16A	0.975194102	1.004683	0.748401	1.348726
ZNF518A	0.975438104	0.995368	0.740653	1.337679
VPS50	0.975987873	1.004573	0.746373	1.352094
AASDH	0.976031909	0.995511	0.742303	1.335091
NDUFA1	0.976304929	1.004483	0.747745	1.349373
ANKRD61	0.976735834	1.004399	0.747817	1.349015
SCRG1	0.97761777	0.995661	0.734841	1.349056
GNA13	0.979860695	0.996217	0.742273	1.337041
DDX47	0.980490185	1.003673	0.748147	1.346473

TAS2R3	0.981069243	1.003571	0.747606	1.347173
CCDC97	0.981075943	0.996406	0.740021	1.341619
TIGD1	0.981188721	0.996434	0.740458	1.340902
KMT5C	0.981382523	1.003503	0.748121	1.346064
SYCE1L	0.981626816	1.003478	0.746767	1.348437
PANK3	0.981756725	1.003447	0.747148	1.347666
SAP25	0.983135756	0.996831	0.74266	1.337989
JTB	0.984297181	1.002984	0.745459	1.349473
SCYL2	0.985072101	0.997171	0.741085	1.341747
FAM193B	0.985142815	0.997184	0.741131	1.341702
TADA2A	0.98523205	1.002777	0.747606	1.345043
ZNF765	0.985870312	0.997345	0.743164	1.338464
PABPN1	0.986040282	1.002623	0.747623	1.3446
GALT	0.986217068	1.002619	0.745181	1.348994
ZBTB20	0.986661952	0.997498	0.743624	1.338044
CHKB	0.987064872	1.002436	0.746978	1.345259
KIAA1551	0.987408983	0.997638	0.743763	1.338171
NME7	0.988052575	0.997749	0.742891	1.34004
STAG1	0.988468304	0.997783	0.738476	1.348143
POP5	0.988807548	1.0021	0.747476	1.343461
TMEM91	0.988824099	0.9979	0.743578	1.339206
UNK	0.988966659	1.002104	0.743926	1.349883
GCC2	0.989518164	0.998029	0.743549	1.339605
ZBTB48	0.989573559	0.998039	0.743517	1.339689
HEXIM2	0.989920587	0.9981	0.74306	1.340677
WDR73	0.990131666	0.998145	0.743672	1.339693
TMEM39B	0.990451306	0.998196	0.742662	1.341654
HIST1H4L	0.990481103	1.001787	0.747132	1.343238
MBD6	0.991327442	0.998371	0.74408	1.339567
ASCL2	0.9918721	1.001528	0.746645	1.34342
MRPL24	0.993357692	0.998748	0.74362	1.341408
CNOT6L	0.993910384	1.001168	0.741898	1.351045
SLC38A10	0.994940199	1.000949	0.746523	1.342087
BBS4	0.995018993	0.999063	0.744412	1.340828
DAPP1	0.995020873	0.999062	0.744102	1.341383
TIMP3	0.995727583	0.999199	0.745074	1.339998
SPATA20	0.996121451	1.000726	0.746774	1.34104
TXNDC16	0.996410654	1.000675	0.745926	1.342425
HNRNPCL1	0.996436345	0.999331	0.744867	1.340724
AWAT1	0.997588214	0.999537	0.740464	1.349256
ULK4	0.998319706	1.000316	0.745152	1.342858
ARL6IP4	0.998470562	0.999713	0.745196	1.341158
CELF6	0.999761638	0.999955	0.745891	1.340558

Table S6. DEGs between low- and high-risk score phenotypes LUAD patients.

ID	log2FC	P value	FDR
SPAG11B	-6.69248	4.07E-28	1.19E-25
SPAG11A	-6.22762	1.41E-24	3.21E-22
GC	-6.13406	1.65E-30	6.10E-28
MSTN	-5.27982	1.13E-76	2.06E-72
ALB	-5.20768	7.00E-39	5.77E-36
LCN9	-5.13564	3.57E-28	1.06E-25
AFP	-4.95205	1.82E-30	6.51E-28
PRB4	-4.64341	4.47E-20	6.19E-18
SST	-4.52694	9.19E-21	1.40E-18
NEUROD4	-4.45957	1.67E-17	1.81E-15
PNLIP	-4.28956	4.44E-20	6.19E-18
SSX3	-4.18275	2.69E-20	3.87E-18
LIPF	-4.15985	6.27E-24	1.29E-21
TUNAR	-4.10292	8.79E-21	1.35E-18
G6PC	-4.07824	1.00E-17	1.11E-15
PRODH2	-3.93078	3.38E-19	4.41E-17
VSX2	-3.87062	9.29E-30	2.96E-27
PRAC1	-3.84558	1.45E-18	1.76E-16
SLC7A14	-3.84208	1.69E-34	8.29E-32
PRB1	-3.74922	7.60E-15	5.52E-13
TFAP2B	-3.72591	2.63E-24	5.74E-22
HDGFL1	-3.70399	2.36E-22	4.33E-20
GLRA4	-3.65273	1.74E-26	4.40E-24
BHMT	-3.61858	1.73E-38	1.26E-35
CYP11B1	-3.59924	3.84E-20	5.45E-18
HTR3B	-3.58026	1.05E-21	1.84E-19
CREB3L3	-3.57121	1.73E-38	1.26E-35
SLC17A6	-3.52355	7.28E-17	7.34E-15
LCN15	-3.50813	6.55E-21	1.04E-18
APOA1	-3.49083	1.38E-44	1.67E-41
CELA3A	-3.46507	8.97E-19	1.11E-16
SPIC	-3.41963	6.34E-30	2.09E-27
PRLHR	-3.29361	3.04E-17	3.23E-15
FOXI1	-3.26529	4.18E-25	9.73E-23
RHOXF2	-3.2331	1.11E-14	7.70E-13
RTP1	-3.20443	6.21E-21	1.01E-18
WFDC12	-3.16003	3.76E-22	6.76E-20
RHOXF2B	-3.0995	7.43E-13	3.63E-11
PAQR9	-3.06815	4.00E-13	2.07E-11
CDH22	-3.04471	3.93E-30	1.35E-27
GLYATL3	-3.03752	6.60E-14	3.91E-12
LGALS14	-3.00894	1.74E-13	9.56E-12

CALB1	-2.97239	5.05E-20	6.95E-18
GNRH2	-2.9712	1.32E-35	7.48E-33
REG1B	-2.96432	5.46E-13	2.75E-11
GFRA4	-2.96192	5.67E-17	5.78E-15
AC187653.1	-2.9185	4.53E-14	2.78E-12
APOA5	-2.89754	2.95E-24	6.38E-22
FABP7	-2.87293	3.51E-18	4.00E-16
PHOX2B	-2.83461	4.59E-13	2.35E-11
ALPI	-2.81794	1.40E-13	7.86E-12
PNMA6F	-2.80812	4.63E-14	2.83E-12
MORC1	-2.71985	3.35E-17	3.54E-15
PRH2	-2.71452	2.49E-35	1.37E-32
GIF	-2.71324	1.01E-14	7.13E-13
NEUROG3	-2.71195	1.23E-21	2.11E-19
KRT33A	-2.67986	3.19E-09	6.93E-08
UGT2A1	-2.65496	2.41E-14	1.55E-12
HTR3E	-2.61527	5.37E-18	6.05E-16
ACTL8	-2.56375	1.48E-12	6.86E-11
A4GNT	-2.54214	3.81E-25	8.98E-23
NLRP13	-2.53609	1.93E-10	5.77E-09
BPIFB4	-2.45806	1.23E-15	1.06E-13
WFDC5	-2.45466	2.39E-09	5.38E-08
CELA3B	-2.45331	2.06E-16	1.94E-14
CARTPT	-2.44233	8.49E-11	2.78E-09
CLCA1	-2.42543	3.31E-10	9.35E-09
CYP2B6	-2.41747	4.71E-15	3.52E-13
KRT31	-2.41213	2.18E-10	6.48E-09
KIR3DX1	-2.39021	1.72E-25	4.22E-23
HHATL	-2.37389	3.27E-16	2.97E-14
HMX3	-2.37012	1.42E-09	3.43E-08
MCCD1	-2.36778	2.52E-12	1.08E-10
CRH	-2.35741	1.75E-09	4.11E-08
PRB3	-2.34144	1.59E-29	4.97E-27
RERGL	-2.30095	2.76E-20	3.95E-18
NNAT	-2.29691	1.69E-24	3.79E-22
SOHLH1	-2.27501	6.31E-13	3.17E-11
CD177	-2.27443	3.58E-19	4.65E-17
CALML3	-2.23237	3.66E-12	1.52E-10
CDH16	-2.22896	3.45E-14	2.19E-12
OLIG3	-2.22537	2.90E-07	3.76E-06
F2	-2.19174	1.08E-10	3.43E-09
KLK14	-2.17615	4.42E-14	2.72E-12
VSTM2A	-2.17041	4.12E-10	1.13E-08
CCKAR	-2.13421	1.71E-09	4.04E-08

HRG	-2.11889	8.34E-14	4.81E-12
CPA1	-2.11358	2.61E-15	2.08E-13
KLK12	-2.10927	3.37E-10	9.49E-09
VTN	-2.09845	2.79E-15	2.20E-13
MYOD1	-2.08697	6.18E-08	9.67E-07
SLC7A3	-2.08458	1.55E-13	8.59E-12
HMP19	-2.07512	1.13E-10	3.59E-09
SERPINA6	-2.05879	8.64E-11	2.81E-09
MSMB	-2.03421	7.86E-13	3.79E-11
GLRA2	-2.02921	1.15E-12	5.38E-11
SNX31	-2.00713	9.76E-17	9.63E-15
TF	-2.00328	1.53E-13	8.54E-12
TNMD	-1.99729	1.93E-08	3.43E-07
CELF3	-1.97255	8.30E-13	3.97E-11
AQP2	-1.96857	2.00E-15	1.63E-13
FGF21	-1.96272	9.62E-09	1.87E-07
SLC14A2	-1.96212	2.22E-12	9.66E-11
NKX2-2	-1.95418	1.10E-06	1.19E-05
RET	-1.93715	6.94E-21	1.09E-18
XAGE5	-1.9238	1.94E-06	1.93E-05
TCHHL1	-1.92358	5.62E-07	6.62E-06
OTOS	-1.91993	1.35E-07	1.92E-06
SVOP	-1.90534	1.85E-12	8.30E-11
GFI1B	-1.89521	1.70E-23	3.39E-21
ATOH1	-1.88223	1.84E-06	1.85E-05
PRSS33	-1.88157	3.94E-10	1.09E-08
NKX2-4	-1.86869	3.31E-07	4.23E-06
DPPA5	-1.86078	5.76E-06	4.88E-05
C1orf64	-1.85294	4.64E-10	1.25E-08
KRTAP29-1	-1.83983	2.98E-12	1.25E-10
GABRA4	-1.82378	1.45E-09	3.50E-08
HEPACAM2	-1.79659	2.80E-10	8.06E-09
HRH3	-1.78647	1.52E-06	1.57E-05
SLC38A8	-1.78061	1.35E-10	4.23E-09
CEACAM7	-1.77218	3.50E-12	1.46E-10
PGC	-1.7721	5.44E-09	1.13E-07
NKX6-3	-1.76639	3.67E-15	2.81E-13
PRORY	-1.75461	9.61E-05	0.000546
BMX	-1.74245	1.67E-22	3.10E-20
CALY	-1.73415	1.67E-11	6.30E-10
TAS2R38	-1.73034	1.42E-08	2.61E-07
C6orf58	-1.72954	2.48E-17	2.68E-15
DCAF4L2	-1.72643	0.000212	0.001076
REG1A	-1.7155	7.65E-05	0.000448

TENM1	-1.71099	1.38E-15	1.17E-13
UGT3A1	-1.70796	8.75E-05	0.000503
TSPYL6	-1.70522	8.08E-11	2.67E-09
PIRT	-1.70346	1.45E-06	1.51E-05
SPATA16	-1.69926	5.57E-07	6.57E-06
KLRF2	-1.69486	1.16E-11	4.55E-10
TTR	-1.69009	7.94E-07	8.94E-06
KCNK10	-1.687	1.82E-12	8.21E-11
GRM4	-1.68485	2.41E-15	1.93E-13
TSPY2	-1.6824	0.000169	0.000891
MYT1	-1.67884	8.58E-13	4.10E-11
TBX10	-1.67166	6.16E-11	2.08E-09
EPHA5	-1.66704	8.02E-08	1.21E-06
PPY	-1.65592	5.08E-11	1.73E-09
AKR1C4	-1.6527	2.31E-08	4.00E-07
SI	-1.63252	8.69E-06	6.90E-05
SERPINA11	-1.63241	3.39E-07	4.32E-06
MYBPC1	-1.632	5.29E-08	8.43E-07
WIF1	-1.63188	6.69E-12	2.71E-10
LRRC74B	-1.63011	2.16E-12	9.41E-11
ZACN	-1.62233	2.28E-30	7.95E-28
SOX3	-1.61821	1.85E-06	1.86E-05
RETNLB	-1.61699	2.10E-10	6.26E-09
LRRTM3	-1.61148	1.10E-05	8.48E-05
KNG1	-1.60906	1.27E-07	1.82E-06
OBP2A	-1.60569	4.05E-08	6.71E-07
KRT38	-1.60154	1.14E-06	1.23E-05
KCNU1	-1.59814	7.91E-06	6.41E-05
AGXT	-1.59469	4.94E-08	7.93E-07
ATP12A	-1.59307	8.49E-11	2.78E-09
HTR3C	-1.5909	1.15E-11	4.50E-10
C14orf180	-1.58112	3.28E-13	1.73E-11
ETNPPL	-1.5739	4.23E-06	3.78E-05
RSPH6A	-1.56886	4.37E-10	1.19E-08
UNC13C	-1.5688	9.28E-15	6.60E-13
CFAP100	-1.56466	8.23E-16	7.25E-14
SEC14L3	-1.5589	1.83E-11	6.84E-10
LPA	-1.55003	5.33E-11	1.81E-09
TTLL8	-1.54474	6.98E-10	1.82E-08
HSD3B2	-1.54171	1.58E-09	3.77E-08
SLC39A5	-1.53345	1.72E-11	6.48E-10
STUM	-1.53314	2.71E-12	1.16E-10
TNNT3	-1.53249	1.67E-15	1.38E-13
APOA2	-1.53192	4.45E-06	3.92E-05

GAGE2A	-1.53181	0.001341	0.005096
STRA8	-1.52997	5.29E-06	4.54E-05
TRIM49	-1.52637	3.38E-06	3.11E-05
TRIM49C	-1.52573	1.38E-07	1.95E-06
CWH43	-1.52242	6.21E-09	1.26E-07
KRTAP16-1	-1.50509	2.05E-08	3.59E-07
DAPL1	-1.50508	1.32E-11	5.10E-10
PRR4	-1.5011	1.81E-20	2.68E-18
MUC6	-1.49733	3.00E-06	2.81E-05
CLVS2	-1.49517	0.00029	0.001395
VWA3A	-1.49366	1.57E-13	8.64E-12
FGFBP2	-1.48966	1.09E-19	1.49E-17
ASCL1	-1.48896	9.90E-06	7.77E-05
CDH9	-1.48365	9.34E-05	0.000533
TCEAL5	-1.48253	4.82E-10	1.30E-08
GLTPD2	-1.47789	2.17E-19	2.87E-17
INSRR	-1.47683	5.30E-13	2.67E-11
P2RY4	-1.46832	8.28E-14	4.80E-12
ANXA13	-1.45766	1.11E-08	2.11E-07
MAFA	-1.45603	8.65E-14	4.95E-12
ASGR2	-1.43857	7.98E-17	8.01E-15
PHGR1	-1.42986	3.57E-06	3.26E-05
TPH1	-1.42952	2.09E-19	2.79E-17
CHRDL2	-1.42604	1.40E-15	1.19E-13
APOB	-1.419	3.62E-07	4.58E-06
MMP26	-1.41779	0.00017	0.000896
SLC17A4	-1.41037	2.14E-05	0.000152
ADAD2	-1.40917	4.71E-11	1.62E-09
GALR3	-1.40885	1.78E-09	4.17E-08
TRPM5	-1.40724	3.52E-11	1.25E-09
SMLR1	-1.40411	5.68E-07	6.68E-06
ITIH1	-1.40267	6.53E-15	4.80E-13
SPINK4	-1.39882	9.16E-05	0.000524
PGA5	-1.39705	3.07E-07	3.95E-06
KCNK16	-1.39617	2.65E-07	3.46E-06
PCDH8	-1.39237	0.000105	0.000589
SPINK1	-1.39055	5.10E-09	1.06E-07
LRRC26	-1.38972	3.23E-10	9.16E-09
SSX1	-1.38114	0.001728	0.006299
CPB1	-1.37345	2.10E-06	2.06E-05
ACTL6B	-1.37298	1.65E-05	0.000121
SERPINB12	-1.36551	2.73E-05	0.000187
RALYL	-1.36497	0.000532	0.002342
PROK1	-1.36047	6.94E-11	2.31E-09

CALCA	-1.35856	0.000426	0.001936
BPIFB2	-1.35464	1.40E-05	0.000105
KRTAP5-5	-1.35379	3.65E-05	0.00024
PRAP1	-1.35348	1.66E-07	2.30E-06
KLK13	-1.35071	3.90E-08	6.51E-07
BEX1	-1.34884	2.03E-07	2.75E-06
DNAAF1	-1.34803	4.13E-16	3.73E-14
MTTP	-1.34634	1.51E-11	5.75E-10
ADH7	-1.34473	6.94E-06	5.74E-05
HFE2	-1.3407	7.26E-12	2.94E-10
HOXB9	-1.33952	4.43E-06	3.91E-05
OBP2B	-1.3378	4.32E-07	5.33E-06
CLCNKA	-1.33452	3.40E-15	2.64E-13
MROH2B	-1.33418	6.57E-10	1.72E-08
SAGE1	-1.33065	0.000104	0.000585
PCP4	-1.32624	1.24E-08	2.31E-07
PROZ	-1.32619	6.56E-19	8.21E-17
POU3F3	-1.32536	0.000295	0.001416
UBE2U	-1.32298	4.56E-06	4.00E-05
ASPG	-1.31912	8.64E-10	2.20E-08
SLC22A10	-1.31854	2.46E-10	7.24E-09
ATP2B2	-1.31493	2.91E-11	1.04E-09
CHGB	-1.31062	1.17E-05	8.92E-05
GSTA3	-1.30913	8.61E-10	2.20E-08
GSTA2	-1.2894	1.93E-07	2.63E-06
GABRG3	-1.2865	8.12E-06	6.55E-05
TMEM229A	-1.28489	4.32E-05	0.000278
ACSM2B	-1.28197	3.33E-07	4.26E-06
HOXB1	-1.27681	2.47E-05	0.000172
TM4SF5	-1.27058	0.000523	0.00231
DLEC1	-1.26714	1.74E-16	1.65E-14
B3GALT2	-1.26624	1.13E-14	7.85E-13
CTNND2	-1.26539	3.66E-07	4.62E-06
CRISP2	-1.26503	1.92E-07	2.61E-06
KCNT1	-1.26407	4.21E-10	1.15E-08
SOST	-1.26406	2.13E-05	0.000151
CCDC154	-1.26001	6.05E-15	4.50E-13
AGTR2	-1.25772	7.65E-07	8.64E-06
AQP7	-1.25091	6.72E-15	4.91E-13
REG3A	-1.24622	0.006258	0.018321
VCX3B	-1.2452	5.56E-06	4.73E-05
SLC22A9	-1.24439	3.60E-07	4.56E-06
ENO3	-1.23786	1.11E-14	7.70E-13
CEACAM8	-1.23488	1.39E-07	1.97E-06

TTLL10	-1.22835	4.56E-13	2.35E-11
C9orf135	-1.2283	1.97E-08	3.49E-07
COL25A1	-1.22666	3.81E-06	3.45E-05
TDGF1	-1.22501	1.33E-09	3.24E-08
TTLL6	-1.22151	2.14E-13	1.16E-11
CTRB1	-1.22112	2.16E-07	2.90E-06
KCNE2	-1.21706	9.52E-17	9.44E-15
GALNTL5	-1.21685	2.52E-06	2.41E-05
A2ML1	-1.21463	1.63E-05	0.000119
CNGA3	-1.21335	2.69E-07	3.51E-06
CFAP73	-1.20576	2.13E-12	9.36E-11
PRMT8	-1.20569	1.56E-09	3.72E-08
SCGB1A1	-1.20416	5.13E-06	4.42E-05
AGXT2	-1.20357	0.000115	0.00064
GPR12	-1.20203	1.72E-05	0.000125
CYP17A1	-1.2017	2.19E-14	1.42E-12
SCGB3A2	-1.19854	1.48E-07	2.09E-06
LRFN2	-1.19518	2.97E-06	2.78E-05
GUCA2A	-1.1947	8.12E-06	6.55E-05
PSORS1C2	-1.19352	3.08E-08	5.22E-07
CCDC17	-1.19102	5.06E-14	3.08E-12
CLDN2	-1.18597	9.19E-07	1.02E-05
CNTN5	-1.18527	3.85E-09	8.21E-08
ADGRB1	-1.18375	2.10E-09	4.82E-08
APOH	-1.18062	2.29E-07	3.04E-06
KIR2DL1	-1.17819	0.000129	0.000705
STMN2	-1.17817	2.27E-07	3.03E-06
C10orf71	-1.17303	5.53E-05	0.000343
PCDH11Y	-1.17269	7.32E-06	6.00E-05
TMEM59L	-1.17163	3.85E-08	6.44E-07
EMX2	-1.16602	0.001313	0.005012
MCHR2	-1.16371	5.82E-05	0.000357
MYO18B	-1.16334	3.70E-06	3.36E-05
ALLC	-1.15964	2.24E-05	0.000158
STATH	-1.15933	0.000412	0.00188
NXF3	-1.15915	3.02E-10	8.61E-09
LINC01314	-1.15777	3.44E-11	1.22E-09
TSPY1	-1.1556	0.008994	0.024709
ST18	-1.15471	6.22E-09	1.27E-07
SLC7A9	-1.15452	2.36E-09	5.33E-08
ATP4B	-1.15429	8.59E-11	2.80E-09
DAZL	-1.15336	4.12E-07	5.12E-06
CDHR4	-1.15327	5.19E-08	8.28E-07
PNPLA7	-1.15233	1.77E-23	3.48E-21

POU5F1B	-1.14717	2.16E-14	1.40E-12
SCGB3A1	-1.14524	6.64E-06	5.53E-05
SLC16A11	-1.14033	2.79E-17	2.98E-15
SLCO1B1	-1.13622	0.000364	0.001686
PENK	-1.1361	1.98E-07	2.69E-06
APOC3	-1.13357	0.008762	0.02421
BPIFA1	-1.13262	0.000146	0.000785
GAD2	-1.12823	0.000169	0.000892
FAM83C	-1.12793	0.00075	0.00314
CFAP157	-1.12616	3.38E-18	3.93E-16
CHRNA9	-1.12399	4.76E-05	0.000303
HSD17B13	-1.11971	8.42E-09	1.66E-07
DNAI1	-1.11871	9.99E-09	1.93E-07
CACNG2	-1.11823	0.001012	0.004035
TMEM207	-1.11658	0.001636	0.006027
GAL	-1.11505	4.38E-06	3.88E-05
UGT2B28	-1.1137	0.000482	0.002153
CLEC18C	-1.11196	8.75E-07	9.73E-06
MAPK15	-1.10655	2.09E-16	1.97E-14
PMP2	-1.10424	7.23E-06	5.95E-05
ZPLD1	-1.10209	1.99E-08	3.52E-07
CFAP46	-1.10082	9.83E-10	2.47E-08
F7	-1.10061	2.83E-07	3.68E-06
ADCYAP1	-1.10054	1.21E-08	2.26E-07
CTRB2	-1.09975	8.98E-08	1.34E-06
GRIK1	-1.09855	3.87E-11	1.36E-09
SLC5A12	-1.09798	7.66E-07	8.65E-06
MSLNL	-1.0974	1.37E-06	1.44E-05
CFAP65	-1.09732	2.85E-09	6.29E-08
MAGEB17	-1.09647	2.62E-05	0.000181
TTLL9	-1.09081	1.70E-12	7.73E-11
TMEM190	-1.08932	3.50E-07	4.43E-06
LRRC71	-1.08544	7.83E-08	1.19E-06
CYP2C9	-1.08489	3.47E-07	4.41E-06
DNAI2	-1.08105	3.76E-07	4.72E-06
BSND	-1.0787	2.13E-07	2.87E-06
PHACTR3	-1.07723	1.58E-08	2.85E-07
KCNH6	-1.07676	7.38E-06	6.04E-05
OR2W3	-1.07634	2.01E-06	1.99E-05
ZMAT4	-1.07495	0.000284	0.001371
FRMPD2	-1.07464	1.37E-07	1.95E-06
WFDC6	-1.07383	3.33E-05	0.000223
CHAD	-1.07193	8.38E-10	2.14E-08
KRTAP9-1	-1.07095	4.95E-05	0.000311

GPR142	-1.06889	5.10E-06	4.40E-05
FGF17	-1.06681	9.70E-12	3.86E-10
TUBA4B	-1.06522	3.94E-08	6.57E-07
PEX5L	-1.06346	1.34E-07	1.91E-06
IFITM5	-1.06166	1.17E-05	8.95E-05
LGALS7B	-1.06028	7.65E-06	6.23E-05
SPOCK3	-1.05942	3.93E-06	3.54E-05
PAX2	-1.05559	0.001344	0.005105
SLC46A2	-1.05413	1.24E-09	3.04E-08
EFCAB8	-1.05315	4.23E-16	3.80E-14
SCN3A	-1.05152	1.69E-05	0.000123
MTMR7	-1.05135	3.86E-09	8.23E-08
NEB	-1.04893	2.75E-12	1.17E-10
ALDOB	-1.04881	5.18E-06	4.46E-05
MEP1B	-1.04754	8.53E-07	9.54E-06
VWA5B2	-1.03957	3.39E-08	5.70E-07
C1orf158	-1.03593	1.45E-05	0.000108
HHLA1	-1.03413	0.002248	0.00788
SLC17A2	-1.03409	0.006612	0.019162
C1orf194	-1.0337	6.17E-08	9.66E-07
PLA2G6	-1.02876	2.63E-28	7.94E-26
C1QTNF8	-1.02696	0.00017	0.000896
SH2D6	-1.02685	1.03E-13	5.84E-12
CSTL1	-1.02613	2.00E-05	0.000143
C11orf16	-1.02282	6.78E-09	1.37E-07
CCDC114	-1.02272	8.01E-13	3.85E-11
CPB2	-1.02022	1.23E-05	9.38E-05
SLC28A2	-1.01886	8.27E-05	0.000479
PTH2R	-1.0153	1.90E-06	1.90E-05
KRT76	-1.01464	0.005075	0.015443
COLEC11	-1.01369	3.31E-12	1.38E-10
CFAP74	-1.01271	8.88E-09	1.74E-07
EPPIN-WFDC6	-1.0126	3.87E-05	0.000253
C22orf15	-1.01249	8.79E-09	1.72E-07
SALL3	-1.01105	0.001322	0.005038
CHRM1	-1.01086	6.08E-07	7.07E-06
INS	-1.00933	0.00367	0.011833
FAM9B	-1.00875	0.000401	0.001837
ABCC12	-1.00782	3.10E-06	2.89E-05
ECEL1	-1.00689	2.69E-06	2.55E-05
SAG	-1.00623	4.05E-10	1.11E-08
AFM	-1.00491	0.000109	0.00061
TBC1D3E	-1.00196	1.65E-05	0.000121

TBPL2	-1.00028	9.31E-06	7.35E-05
C10orf90	1.000111	0.000104	0.000585
GREM1	1.001188	8.06E-11	2.67E-09
GPC6	1.001871	9.21E-15	6.58E-13
FOXL2NB	1.005385	0.000332	0.00157
MGARP	1.006075	5.10E-09	1.06E-07
KRT23	1.006381	4.94E-05	0.000311
PCDH7	1.006754	3.38E-13	1.77E-11
HIST2H2BF	1.007381	4.47E-11	1.54E-09
PDPN	1.007497	2.34E-16	2.18E-14
CD109	1.013963	3.15E-16	2.88E-14
TUSC5	1.015121	3.80E-06	3.44E-05
CES5A	1.019142	5.10E-05	0.00032
UGT1A1	1.020968	0.002136	0.007539
GCK	1.022258	3.84E-09	8.21E-08
CYP11A1	1.023846	1.03E-08	1.98E-07
GJB3	1.025314	5.90E-08	9.32E-07
FAM19A4	1.025576	3.06E-06	2.85E-05
LYPD3	1.026095	4.47E-10	1.22E-08
PITX3	1.026779	2.18E-08	3.79E-07
SPOCK1	1.029393	2.00E-09	4.62E-08
ADAMTSL1	1.029502	2.18E-15	1.77E-13
LRRC15	1.029905	1.11E-11	4.37E-10
CRB2	1.030894	2.94E-09	6.47E-08
KRT81	1.031209	0.000103	0.000582
AKR1B10	1.035629	0.000553	0.002423
SLC3A1	1.035903	1.22E-07	1.76E-06
KCNK12	1.038286	9.78E-10	2.47E-08
TAS2R50	1.03903	1.27E-07	1.83E-06
ONECUT3	1.039924	0.001181	0.00459
NETO1	1.042133	1.86E-08	3.30E-07
NCCRP1	1.047605	5.42E-07	6.43E-06
ANXA10	1.048814	0.000736	0.003096
TWIST1	1.049095	1.92E-11	7.15E-10
GJB2	1.049472	1.69E-12	7.72E-11
GALP	1.052444	0.000602	0.002608
PPP1R3A	1.053681	0.014757	0.03705
MYH13	1.055249	1.42E-09	3.44E-08
CALN1	1.058934	0.000447	0.002018
VIT	1.05972	1.14E-07	1.67E-06
EVX1	1.061185	0.00028	0.001359
EPGN	1.062635	7.37E-06	6.03E-05
SNAI2	1.065119	6.62E-21	1.04E-18
SYT9	1.06608	6.78E-07	7.76E-06

PROKR1	1.072008	2.84E-06	2.67E-05
HIST1H2BJ	1.077873	5.54E-12	2.27E-10
HS3ST3A1	1.078074	3.43E-18	3.96E-16
ESX1	1.078303	0.005259	0.015897
IFNE	1.078313	1.36E-05	0.000102
HCRTR2	1.084306	6.58E-08	1.02E-06
HTR7	1.085753	1.72E-18	2.07E-16
TRPA1	1.087272	3.59E-09	7.71E-08
STEAP1B	1.087904	3.67E-11	1.30E-09
GPR52	1.097414	3.90E-09	8.31E-08
SEZ6	1.100083	1.60E-05	0.000118
MME	1.104939	3.65E-14	2.28E-12
GPR78	1.106768	1.72E-10	5.24E-09
DCAF8L1	1.111681	0.001915	0.006873
REG4	1.11347	0.006124	0.017995
FAM83B	1.11842	2.92E-07	3.78E-06
LAMC2	1.120737	4.21E-17	4.34E-15
CDH12	1.121111	0.000114	0.000633
SCN5A	1.121598	1.23E-10	3.88E-09
SP7	1.121968	1.68E-07	2.33E-06
KCNA4	1.125319	1.72E-07	2.37E-06
TUBA3E	1.127709	0.000255	0.001255
TRPM8	1.132561	1.04E-06	1.14E-05
COL9A3	1.133224	5.09E-13	2.59E-11
KRT37	1.13906	0.000462	0.00208
S100A12	1.140587	3.48E-11	1.23E-09
TEX101	1.143628	8.44E-05	0.000487
SLC26A4	1.147033	1.75E-07	2.41E-06
ZBTB20	1.149122	6.12E-21	1.00E-18
SHCBP1L	1.150483	0.000116	0.000642
MUC22	1.151144	6.96E-09	1.40E-07
HIST1H2BG	1.15217	5.07E-09	1.06E-07
NPY5R	1.153554	6.68E-06	5.56E-05
OTOR	1.159016	4.73E-05	0.000301
KRT6C	1.160817	8.93E-05	0.000512
IDI2	1.160949	8.21E-07	9.21E-06
TRH	1.166972	2.07E-08	3.62E-07
HIST1H3D	1.16711	8.37E-11	2.75E-09
MGAT5B	1.168061	6.67E-12	2.71E-10
COL12A1	1.177001	1.18E-16	1.15E-14
ANXA8L1	1.177475	6.05E-10	1.60E-08
MDGA2	1.187091	0.00038	0.001754
ACP7	1.200472	1.78E-07	2.45E-06
COL11A2	1.200597	4.72E-09	9.94E-08

LVRN	1.205015	3.68E-10	1.03E-08
SH2D5	1.210226	4.63E-10	1.25E-08
SPATA22	1.210715	1.97E-07	2.68E-06
GPR1	1.210939	2.15E-14	1.40E-12
EREG	1.213307	5.81E-07	6.80E-06
KCNJ13	1.2148	1.56E-08	2.84E-07
C11orf87	1.216802	1.21E-08	2.25E-07
GADL1	1.217151	3.57E-09	7.68E-08
UGT2B11	1.217882	0.000491	0.00219
IGF2	1.2189	3.68E-07	4.64E-06
FOSL1	1.220886	1.61E-15	1.34E-13
FGF19	1.221154	0.000227	0.001138
STMN4	1.221817	1.27E-06	1.35E-05
ZNF460	1.222396	2.82E-22	5.12E-20
MYH8	1.226773	1.10E-09	2.72E-08
UCN3	1.227413	1.44E-05	0.000107
KCNG1	1.231954	5.34E-10	1.43E-08
COL11A1	1.232843	1.58E-10	4.88E-09
TAS2R46	1.232932	1.98E-08	3.49E-07
SERPINE2	1.250772	1.64E-21	2.79E-19
ODF3	1.259101	3.18E-07	4.08E-06
APCDD1L	1.260487	1.41E-11	5.41E-10
KRT6A	1.264108	7.55E-06	6.16E-05
HIST1H2BH	1.265812	1.30E-08	2.40E-07
CILP	1.266374	8.35E-16	7.32E-14
PSAPL1	1.268444	1.92E-06	1.91E-05
NPTX2	1.271052	2.10E-11	7.73E-10
PRSS48	1.272835	4.77E-09	9.99E-08
IGFL1	1.280273	1.23E-05	9.38E-05
CSMD3	1.290485	1.12E-07	1.63E-06
PRSS3	1.292473	4.40E-08	7.22E-07
HMGA2	1.294167	2.51E-07	3.31E-06
PNPLA5	1.299527	1.70E-05	0.000124
NPPB	1.30618	7.97E-05	0.000464
COLEC10	1.306751	1.23E-12	5.71E-11
ZPBP2	1.307061	1.15E-05	8.81E-05
PNMA5	1.312601	1.98E-05	0.000141
HIST2H3C	1.313054	1.46E-08	2.67E-07
SPRR2F	1.327649	6.12E-05	0.000372
C6orf15	1.332835	3.30E-05	0.000221
CACNG8	1.34034	2.74E-15	2.17E-13
PADI3	1.344659	5.30E-05	0.00033
SLC39A2	1.346087	8.94E-11	2.90E-09
MRGPRX3	1.348373	5.37E-07	6.39E-06

HIST1H2AG	1.353335	3.00E-15	2.34E-13
SHISA9	1.365258	1.93E-05	0.000138
TAS2R13	1.368172	2.52E-12	1.08E-10
KRT34	1.372683	3.25E-06	3.00E-05
ADAMTS19	1.378831	6.14E-05	0.000373
FER1L6	1.380612	3.24E-06	2.99E-05
KCNK2	1.390279	2.63E-10	7.62E-09
DLK1	1.392734	0.001019	0.004059
IL1A	1.393311	7.33E-14	4.29E-12
SERPINB4	1.396613	4.53E-06	3.98E-05
EBF3	1.410522	2.93E-14	1.86E-12
GJA3	1.411431	4.58E-13	2.35E-11
LYPD4	1.416848	4.38E-06	3.88E-05
FETUB	1.418967	1.73E-06	1.75E-05
S100A2	1.419336	1.20E-14	8.25E-13
LEP	1.424375	2.60E-10	7.58E-09
TRPC5	1.424505	1.23E-10	3.88E-09
FSHB	1.434651	0.001529	0.005692
HIST1H3G	1.437739	1.37E-11	5.29E-10
SPRR1B	1.438871	1.87E-06	1.87E-05
CACNG1	1.440782	8.51E-11	2.78E-09
FRG2C	1.448479	5.28E-10	1.42E-08
CREG2	1.454556	4.27E-15	3.22E-13
C10orf99	1.455189	8.98E-05	0.000515
ASIC2	1.463528	5.89E-16	5.26E-14
TAC3	1.465495	5.03E-06	4.35E-05
SERPINB2	1.468237	3.96E-10	1.09E-08
MYH7	1.475643	8.01E-10	2.06E-08
ATCAY	1.478038	2.35E-08	4.07E-07
RBM46	1.478746	2.12E-06	2.08E-05
SORCS3	1.482301	1.17E-08	2.21E-07
PRSS38	1.484493	3.60E-05	0.000238
KIAA1549L	1.500063	2.56E-19	3.37E-17
CBLN1	1.509327	3.27E-09	7.10E-08
L1CAM	1.51688	6.98E-14	4.11E-12
SPRR1A	1.517442	5.18E-07	6.20E-06
AFF2	1.521474	2.88E-14	1.84E-12
RSPO3	1.525933	9.44E-15	6.69E-13
SFRP1	1.528729	1.56E-13	8.61E-12
S100A7A	1.535304	8.22E-05	0.000476
PRDM13	1.535833	6.01E-08	9.44E-07
SPRR2D	1.535871	5.70E-07	6.70E-06
MMP3	1.538878	1.25E-16	1.20E-14
SERPINB7	1.543104	6.66E-09	1.35E-07

OTOP1	1.54603	4.22E-05	0.000273
ANHX	1.553467	5.31E-05	0.000331
ADGRG7	1.559037	1.11E-05	8.58E-05
SLC12A3	1.569796	6.41E-21	1.03E-18
ANXA8	1.586405	3.37E-13	1.77E-11
RNASE7	1.588138	2.45E-10	7.22E-09
NLRP7	1.591998	1.67E-20	2.50E-18
PKHD1L1	1.592419	2.69E-18	3.14E-16
TEX37	1.592602	1.29E-07	1.84E-06
OTOP2	1.607961	4.62E-08	7.51E-07
TFF2	1.612974	0.000352	0.001646
TBX20	1.615061	1.33E-08	2.45E-07
CRISP3	1.617259	4.44E-07	5.44E-06
POU5F2	1.62126	3.69E-17	3.87E-15
PSG9	1.624172	1.47E-05	0.000109
CXorf67	1.628023	3.09E-07	3.97E-06
SLC35F4	1.642702	1.63E-13	8.99E-12
CA6	1.646551	1.28E-08	2.36E-07
NTSR2	1.659646	1.56E-06	1.61E-05
POU3F2	1.660338	3.91E-09	8.32E-08
C4orf26	1.669527	2.61E-18	3.07E-16
C21orf62	1.673564	1.16E-19	1.57E-17
LAMA1	1.680742	7.05E-22	1.25E-19
UMOD	1.683823	5.96E-05	0.000365
GRIA2	1.68614	8.62E-12	3.45E-10
TAAR1	1.687342	3.84E-07	4.81E-06
MFAP5	1.695146	1.74E-20	2.59E-18
TRIM48	1.697624	0.000943	0.003796
CRP	1.710791	1.00E-07	1.48E-06
TMEM196	1.71258	4.28E-06	3.81E-05
CLCA2	1.712977	8.22E-13	3.95E-11
FABP1	1.720206	5.82E-06	4.93E-05
MYRFL	1.720652	3.70E-19	4.77E-17
AC020914.1	1.728761	5.65E-05	0.000348
TAF7L	1.729953	9.41E-16	8.21E-14
GABRA2	1.73762	3.05E-09	6.67E-08
AMY1B	1.740269	3.19E-13	1.69E-11
AMBN	1.743825	7.00E-09	1.41E-07
HOXA13	1.745911	1.74E-07	2.40E-06
SLC6A2	1.763185	4.15E-08	6.85E-07
SSX5	1.778091	2.44E-05	0.00017
CALB2	1.797752	6.37E-19	8.03E-17
GLP2R	1.809323	3.02E-13	1.61E-11
CALML5	1.812213	2.89E-06	2.71E-05

C1orf94	1.816919	1.03E-08	1.98E-07
TAS2R30	1.819488	3.53E-15	2.72E-13
VAT1L	1.822406	1.85E-27	5.10E-25
PTF1A	1.822798	1.38E-06	1.45E-05
LIN28A	1.828588	6.64E-07	7.61E-06
SYNPR	1.845446	1.92E-12	8.58E-11
HIST1H2BF	1.84692	4.03E-15	3.05E-13
HIST1H2AM	1.847772	1.50E-22	2.81E-20
RHCG	1.849615	1.13E-12	5.31E-11
XAGE3	1.853257	2.77E-10	8.00E-09
PRDM9	1.853627	8.81E-07	9.79E-06
IFNK	1.859727	1.73E-11	6.52E-10
BRINP2	1.864816	1.96E-15	1.60E-13
QRFPR	1.898126	7.76E-13	3.78E-11
DPPA2	1.90494	4.65E-05	0.000296
SPRR3	1.908203	1.27E-08	2.35E-07
CLCA4	1.919147	6.55E-13	3.26E-11
SLC6A19	1.919249	2.60E-09	5.83E-08
MUCL1	1.926672	1.19E-11	4.63E-10
FAM25A	1.933002	1.76E-10	5.34E-09
COX8C	1.938966	1.25E-11	4.85E-10
UNC5D	1.939404	2.26E-09	5.14E-08
MAB21L2	1.959831	1.11E-20	1.68E-18
HIST1H2AI	1.977769	6.28E-24	1.29E-21
AC011473.4	1.981736	1.62E-08	2.93E-07
PRL	1.982104	1.22E-12	5.69E-11
KRT20	1.989628	7.74E-07	8.73E-06
DEFB4A	1.991773	5.50E-11	1.87E-09
GDPD2	1.999739	3.49E-23	6.82E-21
CASP14	2.005307	2.02E-06	2.00E-05
FOXR2	2.015221	4.80E-06	4.18E-05
SLC2A2	2.030918	7.86E-07	8.86E-06
4-Mar	2.0536	1.25E-22	2.36E-20
SNTG1	2.054831	1.72E-10	5.24E-09
MYL2	2.057731	1.21E-17	1.33E-15
NRSN1	2.06015	8.19E-10	2.10E-08
LY6G6C	2.077286	7.02E-21	1.09E-18
FLG2	2.09107	2.89E-16	2.65E-14
EIF4E1B	2.098323	2.16E-08	3.77E-07
UPK1B	2.100309	8.13E-10	2.09E-08
ADIPOQ	2.101804	2.69E-08	4.60E-07
PRG4	2.105794	1.84E-20	2.70E-18
SBSN	2.107693	2.87E-15	2.26E-13
IRX4	2.121078	1.26E-09	3.07E-08

FRG2	2.138547	1.23E-09	3.03E-08
HIST2H3D	2.155151	4.11E-26	1.02E-23
OR4A16	2.161786	1.80E-06	1.81E-05
S100G	2.165713	1.09E-11	4.30E-10
CYP4F8	2.178898	1.55E-10	4.80E-09
KRT6B	2.209629	1.91E-14	1.25E-12
TAC1	2.219817	1.40E-06	1.47E-05
CPA4	2.22626	1.00E-21	1.77E-19
HIST1H2AD	2.232277	1.59E-23	3.24E-21
GPR22	2.255659	9.25E-29	2.84E-26
MYPN	2.292308	1.80E-18	2.14E-16
GNAT3	2.296484	1.65E-08	2.98E-07
SCGB2A2	2.297483	3.98E-08	6.61E-07
RTL1	2.310606	1.31E-10	4.12E-09
CERS3	2.317011	1.11E-14	7.70E-13
HIST2H2AC	2.326725	5.10E-37	3.30E-34
CRCT1	2.368984	2.47E-09	5.54E-08
DGKK	2.422919	4.85E-17	4.97E-15
NLRP10	2.437979	1.61E-15	1.34E-13
TRIML2	2.441098	1.23E-16	1.19E-14
KRT9	2.449926	2.83E-16	2.60E-14
KCTD4	2.466558	1.35E-19	1.81E-17
TEX13B	2.48356	7.09E-13	3.49E-11
DSG3	2.526682	1.89E-15	1.55E-13
PSG6	2.530544	1.63E-09	3.86E-08
HIST1H3J	2.537458	7.42E-28	2.07E-25
OR6T1	2.574145	1.87E-10	5.64E-09
FBN2	2.576482	1.20E-36	7.50E-34
SPRR2A	2.583735	7.80E-13	3.78E-11
RPTN	2.59585	7.34E-13	3.59E-11
PI3	2.602239	3.36E-25	8.01E-23
KRTDAP	2.616466	1.09E-26	2.82E-24
SPRR2E	2.617226	3.82E-10	1.06E-08
GDF6	2.621342	1.75E-32	7.38E-30
ACTN3	2.629105	1.56E-33	7.28E-31
BARHL2	2.673426	7.33E-14	4.29E-12
BNC1	2.682063	5.73E-24	1.21E-21
KLK5	2.68488	1.54E-14	1.04E-12
HIST1H2BE	2.692981	1.06E-34	5.51E-32
HIST1H2BO	2.70863	2.23E-33	1.01E-30
SPANXC	2.728635	2.63E-10	7.62E-09
ARHGAP36	2.785425	1.53E-13	8.54E-12
PSG3	2.802646	7.39E-10	1.93E-08
HIST1H2BL	2.81833	3.59E-38	2.51E-35

CACNG7	2.837068	4.79E-21	7.90E-19
CRYGD	2.838592	4.44E-15	3.33E-13
S100A7	2.863991	1.50E-15	1.26E-13
LGI1	2.931928	2.22E-16	2.08E-14
IGDCC3	2.949042	2.60E-35	1.39E-32
RHAG	3.084487	3.46E-18	3.97E-16
FAM205C	3.094468	4.08E-27	1.11E-24
TMIGD1	3.101353	3.89E-17	4.06E-15
HIST1H3A	3.10194	6.69E-36	3.92E-33
DEFA6	3.120322	2.44E-11	8.87E-10
SLC1A6	3.132586	5.52E-28	1.56E-25
SPRR2B	3.14468	1.53E-12	7.05E-11
CT47B1	3.165251	2.24E-14	1.44E-12
KRT14	3.20082	5.67E-27	1.51E-24
HIST1H4E	3.207393	1.19E-33	5.66E-31
MMP27	3.238321	2.50E-16	2.31E-14
GPR26	3.261747	4.80E-18	5.44E-16
FAM9A	3.341902	1.10E-15	9.53E-14
RPE65	3.366252	2.52E-31	9.92E-29
NTSR1	3.382361	1.70E-32	7.36E-30
PRR9	3.399088	9.32E-19	1.15E-16
SPANXD	3.426647	1.30E-14	8.89E-13
MPC1L	3.446132	2.12E-21	3.57E-19
HIST1H2AL	3.472351	1.59E-38	1.25E-35
LCE3D	3.50116	6.94E-16	6.14E-14
CGB5	3.541396	2.65E-17	2.84E-15
HIST1H2BM	3.582988	1.20E-30	4.55E-28
ZP2	3.589383	5.13E-30	1.72E-27
SLC6A5	3.621523	2.00E-20	2.90E-18
SPANXB1	3.740972	3.93E-17	4.07E-15
HIST1H1D	3.917867	7.72E-45	1.00E-41
HSD3B1	3.939381	1.68E-23	3.39E-21
GSG1L2	3.99078	9.10E-23	1.74E-20
HIST1H3F	4.054512	1.83E-30	6.51E-28
SPRR2G	4.16961	1.17E-21	2.02E-19
HIST1H2AH	4.182647	4.78E-36	2.89E-33
FGF5	4.226851	2.21E-44	2.51E-41
HIST1H2AJ	4.249195	6.77E-45	9.45E-42
HIST1H1E	4.257372	3.44E-64	3.12E-60
HIST2H2AB	4.265461	2.48E-45	3.74E-42
HIST1H2AB	4.31505	5.03E-41	4.81E-38
PSG7	4.380681	2.53E-25	6.12E-23
HIST1H3B	4.392845	3.39E-48	6.15E-45
HIST1H3C	4.410661	6.02E-49	1.37E-45

HIST1H4A	4.454045	6.90E-43	6.96E-40
HIST1H4D	4.455757	3.30E-48	6.15E-45
DKK4	4.476173	4.72E-28	1.36E-25
HIST1H3I	4.497539	5.77E-39	4.98E-36
FGF3	4.566791	1.74E-31	7.01E-29
PSG4	4.567768	4.41E-20	6.19E-18
VGLL2	4.610676	3.67E-21	6.11E-19
HIST1H4B	4.801089	1.12E-52	3.38E-49
LGALS13	4.811191	9.91E-27	2.61E-24
CRISP1	4.848139	3.93E-24	8.39E-22
PSG8	4.992363	8.30E-25	1.91E-22
PSG1	5.074882	2.21E-24	4.89E-22
HIST1H2BI	5.077699	6.87E-43	6.96E-40
PSG2	5.116839	3.96E-31	1.53E-28
HIST1H4C	5.134759	3.98E-63	2.40E-59
ITLN1	5.189737	2.09E-51	5.41E-48
HIST1H1A	5.244349	6.60E-30	2.14E-27
NPY	5.397442	1.35E-26	3.44E-24
HIST1H1B	5.464045	2.94E-60	1.33E-56
HIST1H2BB	5.537647	8.89E-48	1.47E-44
DEFA5	5.739992	4.61E-19	5.85E-17
LRRC38	5.823485	7.27E-54	2.64E-50
HIST1H4L	5.950069	1.48E-34	7.46E-32
GCG	6.442577	1.52E-32	6.71E-30
PSG5	6.640979	5.45E-38	3.66E-35
PSG11	6.873113	3.23E-32	1.33E-29
HIST1H4F	7.013402	6.89E-40	6.25E-37

Table S7. Functional enrichment results of DEGs between low- and high-risk score phenotypes LUAD patients.

Term	Count	%	P Value
GO:0005576~extracellular region	171	22.29465	5.81E-34
GO:0000786~nucleosome	41	5.345502	2.33E-31
GO:0005615~extracellular space	138	17.99218	1.90E-25
GO:0006334~nucleosome assembly	35	4.563233	1.32E-20
GO:0000788~nuclear nucleosome	19	2.477184	1.93E-14
GO:0000183~chromatin silencing at rDNA	17	2.216428	1.37E-13
GO:0032200~telomere organization	15	1.955671	1.98E-13
GO:0007218~neuropeptide signaling pathway	25	3.259452	5.89E-13
GO:0006335~DNA replication-dependent nucleosome assembly	15	1.955671	3.89E-12
GO:0008544~epidermis development	22	2.868318	7.43E-12
GO:0046982~protein heterodimerization activity	52	6.779661	8.05E-12
GO:0044267~cellular protein metabolic process	25	3.259452	2.10E-11
GO:0045814~negative regulation of gene expression, epigenetic	17	2.216428	3.28E-11
GO:0051290~protein heterotetramerization	15	1.955671	3.04E-10
GO:0045815~positive regulation of gene expression, epigenetic	17	2.216428	1.18E-09
GO:0000228~nuclear chromosome	16	2.08605	1.29E-09
GO:0010951~negative regulation of endopeptidase activity	23	2.998696	1.38E-09
GO:0005179~hormone activity	19	2.477184	1.23E-08
GO:0007586~digestion	16	2.08605	1.29E-08
GO:0004867~serine-type endopeptidase inhibitor activity	19	2.477184	2.06E-08
GO:0060968~regulation of gene silencing	8	1.043025	3.75E-08
GO:0007565~female pregnancy	18	2.346806	4.80E-08
GO:0019731~antibacterial humoral response	13	1.694915	7.28E-08
GO:0005887~integral component of plasma membrane	97	12.64668	1.35E-07
GO:0001533~cornified envelope	13	1.694915	1.58E-07
GO:0030216~keratinocyte differentiation	15	1.955671	1.16E-06
GO:0005198~structural molecule activity	27	3.520209	2.56E-06
GO:0018149~peptide cross-linking	12	1.564537	2.65E-06
GO:0031047~gene silencing by RNA	17	2.216428	5.97E-06
GO:0031492~nucleosomal DNA binding	11	1.434159	6.68E-06
GO:0007268~chemical synaptic transmission	26	3.389831	7.63E-06
GO:0006704~glucocorticoid biosynthetic process	6	0.782269	9.69E-06
GO:0031225~anchored component of membrane	17	2.216428	9.95E-06
GO:0007631~feeding behavior	10	1.303781	1.14E-05
GO:0031424~keratinization	11	1.434159	1.27E-05

GO:0042393~histone binding	17	2.216428	1.46E-05
GO:0006810~transport	32	4.172099	1.62E-05
GO:0045653~negative regulation of megakaryocyte differentiation	7	0.912647	4.20E-05
GO:0006342~chromatin silencing	10	1.303781	4.86E-05
GO:0005184~neuropeptide hormone activity	8	1.043025	1.03E-04
GO:0001523~retinoid metabolic process	11	1.434159	1.11E-04
GO:0042627~chylomicron	6	0.782269	1.45E-04
GO:0016233~telomere capping	7	0.912647	1.94E-04
GO:0070062~extracellular exosome	148	19.29596	2.03E-04
GO:0000784~nuclear chromosome, telomeric region	16	2.08605	2.04E-04
GO:0034220~ion transmembrane transport	21	2.73794	2.09E-04
GO:0019433~triglyceride catabolic process	7	0.912647	3.18E-04
GO:0005509~calcium ion binding	47	6.127771	3.40E-04
GO:0048265~response to pain	6	0.782269	3.67E-04
GO:0008201~heparin binding	17	2.216428	3.82E-04
GO:0006336~DNA replication-independent nucleosome assembly	7	0.912647	4.00E-04
GO:0006352~DNA-templated transcription, initiation	8	1.043025	4.06E-04
GO:0050830~defense response to Gram-positive bacterium	12	1.564537	4.41E-04
GO:0030300~regulation of intestinal cholesterol absorption	4	0.521512	5.52E-04
GO:0006508~proteolysis	36	4.693611	5.86E-04
GO:0007596~blood coagulation	18	2.346806	8.59E-04
GO:0034361~very-low-density lipoprotein particle	6	0.782269	9.20E-04
GO:0034774~secretory granule lumen	5	0.65189	9.47E-04
GO:1902476~chloride transmembrane transport	12	1.564537	9.52E-04
GO:0005232~serotonin-activated cation-selective channel activity	4	0.521512	9.91E-04
GO:0005578~proteinaceous extracellular matrix	23	2.998696	0.001074
GO:0008083~growth factor activity	16	2.08605	0.001272
GO:0051480~regulation of cytosolic calcium ion concentration	7	0.912647	0.00129
GO:0008284~positive regulation of cell proliferation	33	4.302477	0.001358
GO:0008289~lipid binding	15	1.955671	0.001799
GO:0006641~triglyceride metabolic process	7	0.912647	0.002093
GO:0007271~synaptic transmission, cholinergic	7	0.912647	0.002807
GO:0030279~negative regulation of ossification	5	0.65189	0.002838
GO:0030049~muscle filament sliding	7	0.912647	0.003225

GO:0042157~lipoprotein metabolic process	7	0.912647	0.003225
GO:0050832~defense response to fungus	6	0.782269	0.003471
GO:0003341~cilium movement	6	0.782269	0.003471
GO:0004983~neuropeptide Y receptor activity	4	0.521512	0.003822
GO:0042158~lipoprotein biosynthetic process	4	0.521512	0.004125
GO:0070653~high-density lipoprotein particle receptor binding	3	0.391134	0.004184
GO:0001580~detection of chemical stimulus involved in sensory perception of bitter taste	7	0.912647	0.0042
GO:0070093~negative regulation of glucagon secretion	3	0.391134	0.004413
GO:0072300~positive regulation of metanephric glomerulus development	3	0.391134	0.004413
GO:0010903~negative regulation of very-low-density lipoprotein particle remodeling	3	0.391134	0.004413
GO:0000790~nuclear chromatin	17	2.216428	0.004481
GO:0005796~Golgi lumen	11	1.434159	0.004788
GO:0050829~defense response to Gram-negative bacterium	8	1.043025	0.005223
GO:0005216~ion channel activity	7	0.912647	0.005314
GO:0005882~intermediate filament	12	1.564537	0.005315
GO:0051918~negative regulation of fibrinolysis	4	0.521512	0.005723
GO:0034080~CENP-A containing nucleosome assembly	7	0.912647	0.006047
GO:1904837~beta-catenin-TCF complex assembly	7	0.912647	0.006047
GO:0008202~steroid metabolic process	7	0.912647	0.006047
GO:0016324~apical plasma membrane	22	2.868318	0.006263
GO:0045095~keratin filament	11	1.434159	0.006383
GO:0009813~flavonoid biosynthetic process	5	0.65189	0.006677
GO:0071805~potassium ion transmembrane transport	12	1.564537	0.007537
GO:0004252~serine-type endopeptidase activity	19	2.477184	0.008497
GO:0007623~circadian rhythm	9	1.173403	0.008544
GO:0072221~metanephric distal convoluted tubule development	3	0.391134	0.008599
GO:0052696~flavonoid glucuronidation	5	0.65189	0.009481
GO:0030195~negative regulation of blood coagulation	4	0.521512	0.009901
GO:0004889~acetylcholine-activated cation-selective channel activity	5	0.65189	0.01015
GO:0031210~phosphatidylcholine binding	5	0.65189	0.01015
GO:0045211~postsynaptic membrane	17	2.216428	0.01028
GO:0007267~cell-cell signaling	19	2.477184	0.01059

GO:0034765~regulation of ion transmembrane transport	11	1.434159	0.011235
GO:0005267~potassium channel activity	6	0.782269	0.012241
GO:0008217~regulation of blood pressure	8	1.043025	0.012863
GO:0005499~vitamin D binding	3	0.391134	0.013257
GO:0006814~sodium ion transport	9	1.173403	0.013318
GO:0033038~bitter taste receptor activity	5	0.65189	0.013662
GO:0043234~protein complex	27	3.520209	0.013758
GO:0005892~acetylcholine-gated channel complex	5	0.65189	0.01393
GO:0051180~vitamin transport	3	0.391134	0.013963
GO:0014050~negative regulation of glutamate secretion	3	0.391134	0.013963
GO:0043025~neuronal cell body	22	2.868318	0.014534
GO:0036157~outer dynein arm	3	0.391134	0.01455
GO:0031012~extracellular matrix	21	2.73794	0.014792
GO:0033344~cholesterol efflux	5	0.65189	0.014958
GO:0002227~innate immune response in mucosa	5	0.65189	0.014958
GO:0033700~phospholipid efflux	4	0.521512	0.015462
GO:0010001~glial cell differentiation	4	0.521512	0.015462
GO:0005102~receptor binding	23	2.998696	0.015543
GO:0042166~acetylcholine binding	5	0.65189	0.015674
GO:0005254~chloride channel activity	7	0.912647	0.015892
GO:0008203~cholesterol metabolic process	8	1.043025	0.016223
GO:0045840~positive regulation of mitotic nuclear division	5	0.65189	0.017147
GO:0017127~cholesterol transporter activity	4	0.521512	0.017481
GO:0036158~outer dynein arm assembly	4	0.521512	0.018779
GO:0055102~lipase inhibitor activity	3	0.391134	0.019391
GO:0030020~extracellular matrix structural constituent conferring tensile strength	3	0.391134	0.019391
GO:0060228~phosphatidylcholine-sterol O-acyltransferase activator activity	3	0.391134	0.019391
GO:0004993~G-protein coupled serotonin receptor activity	5	0.65189	0.020231
GO:0022841~potassium ion leak channel activity	4	0.521512	0.020921
GO:0005788~endoplasmic reticulum lumen	15	1.955671	0.021319
GO:0031490~chromatin DNA binding	7	0.912647	0.021963
GO:0005249~voltage-gated potassium channel activity	7	0.912647	0.021963
GO:0030322~stabilization of membrane potential	4	0.521512	0.022457
GO:2000311~regulation of alpha-amino-3-hydroxy-5-methyl-4-isoxazole propionate selective glutamate receptor activity	4	0.521512	0.022457

GO:0022008~neurogenesis	6	0.782269	0.02272
GO:0015020~glucuronosyltransferase activity	5	0.65189	0.022785
GO:0032281~AMPA glutamate receptor complex	5	0.65189	0.023699
GO:0032982~myosin filament	4	0.521512	0.023756
GO:0045909~positive regulation of vasodilation	5	0.65189	0.024867
GO:0030054~cell junction	28	3.650587	0.027256
GO:0004222~metalloendopeptidase activity	10	1.303781	0.027636
GO:0016323~basolateral plasma membrane	14	1.825293	0.027711
GO:0046326~positive regulation of glucose import	5	0.65189	0.027836
GO:0071639~positive regulation of monocyte chemotactic protein-1 production	3	0.391134	0.027843
GO:0072205~metanephric collecting duct development	3	0.391134	0.027843
GO:0061337~cardiac conduction	6	0.782269	0.029698
GO:0043691~reverse cholesterol transport	4	0.521512	0.030901
GO:0051412~response to corticosterone	4	0.521512	0.030901
GO:0005244~voltage-gated ion channel activity	5	0.65189	0.031578
GO:0015171~amino acid transmembrane transporter activity	6	0.782269	0.031709
GO:0045666~positive regulation of neuron differentiation	8	1.043025	0.03184
GO:0007399~nervous system development	19	2.477184	0.032336
GO:0016247~channel regulator activity	3	0.391134	0.034423
GO:0007605~sensory perception of sound	11	1.434159	0.034802
GO:0005230~extracellular ligand-gated ion channel activity	5	0.65189	0.034894
GO:0051781~positive regulation of cell division	6	0.782269	0.035024
GO:0006303~double-strand break repair via nonhomologous end joining	7	0.912647	0.035283
GO:0010898~positive regulation of triglyceride catabolic process	3	0.391134	0.03618
GO:0060012~synaptic transmission, glycinergic	3	0.391134	0.03618
GO:0060046~regulation of acrosome reaction	3	0.391134	0.03618
GO:0034380~high-density lipoprotein particle assembly	3	0.391134	0.03618
GO:0034366~spherical high-density lipoprotein particle	3	0.391134	0.037637
GO:0042632~cholesterol homeostasis	7	0.912647	0.037706
GO:0030574~collagen catabolic process	7	0.912647	0.037706
GO:0004869~cysteine-type endopeptidase inhibitor activity	5	0.65189	0.038403
GO:0007166~cell surface receptor signaling pathway	18	2.346806	0.03957

GO:0072562~blood microparticle	12	1.564537	0.040199
GO:0005201~extracellular matrix structural constituent	7	0.912647	0.04088
GO:0070588~calcium ion transmembrane transport	10	1.303781	0.042496
GO:0005215~transporter activity	14	1.825293	0.043938
GO:0034707~chloride channel complex	6	0.782269	0.044192
GO:0010873~positive regulation of cholesterol esterification	3	0.391134	0.045339
GO:0050796~regulation of insulin secretion	7	0.912647	0.045601
GO:0006865~amino acid transport	5	0.65189	0.04574
GO:0015276~ligand-gated ion channel activity	5	0.65189	0.046006
GO:0045861~negative regulation of proteolysis	4	0.521512	0.046241
GO:0042730~fibrinolysis	4	0.521512	0.046241
GO:0009235~cobalamin metabolic process	4	0.521512	0.046241
GO:0035902~response to immobilization stress	4	0.521512	0.046241
GO:0005104~fibroblast growth factor receptor binding	4	0.521512	0.048702
hsa05322:Systemic lupus erythematosus	39	5.084746	1.19E-23
hsa05034:Alcoholism	43	5.606258	9.29E-23
hsa04974:Protein digestion and absorption	17	2.216428	1.53E-07
hsa04080:Neuroactive ligand-receptor interaction	29	3.780965	1.82E-06
hsa05203:Viral carcinogenesis	21	2.73794	9.50E-05
hsa00140:Steroid hormone biosynthesis	10	1.303781	3.04E-04
hsa04972:Pancreatic secretion	12	1.564537	7.56E-04
hsa04742:Taste transduction	8	1.043025	0.001407
hsa00980:Metabolism of xenobiotics by cytochrome P450	10	1.303781	0.001858
hsa04950:Maturity onset diabetes of the young	6	0.782269	0.002629
hsa00982:Drug metabolism - cytochrome P450	9	1.173403	0.004058
hsa00830:Retinol metabolism	8	1.043025	0.010442
hsa03320:PPAR signaling pathway	8	1.043025	0.013279
hsa04975:Fat digestion and absorption	6	0.782269	0.015399
hsa04261:Adrenergic signaling in cardiomyocytes	12	1.564537	0.015874
hsa05202:Transcriptional misregulation in cancer	13	1.694915	0.025273
hsa05204:Chemical carcinogenesis	8	1.043025	0.03207
hsa00040:Pentose and glucuronate interconversions	5	0.65189	0.035348
hsa04913:Ovarian steroidogenesis	6	0.782269	0.037592
hsa04911:Insulin secretion	8	1.043025	0.042541
hsa04977:Vitamin digestion and absorption	4	0.521512	0.049281

Table S8. Survival analysis results of DEGs between low- and high-risk score phenotypes LUAD patients.

ID	Adjusted Pƛ	HR	Low 95%CI	High 95%CI
PRMT8	6.81E-05	0.541215	0.400091	0.732116
KRT9	8.91E-05	1.82798	1.351892	2.471729
GFI1B	0.000102667	0.547571	0.404072	0.742033
FETUB	0.00025968	1.746963	1.295009	2.356648
CYP17A1	0.000341603	0.576429	0.426398	0.779249
GJB2	0.000427435	1.725229	1.27369	2.336844
PITX3	0.000626607	1.718557	1.260049	2.343908
KRT6C	0.000945401	1.679071	1.234947	2.282915
C10orf99	0.001342806	1.634384	1.210456	2.206781
CES5A	0.001880827	1.605121	1.191047	2.163152
PKHD1L1	0.001932229	0.617756	0.455597	0.837631
GPR78	0.002448556	1.581614	1.175698	2.127674
APOB	0.002530709	1.581694	1.174567	2.129938
SLC14A2	0.002863376	0.634591	0.470632	0.85567
FOSL1	0.003120446	1.576892	1.165824	2.132902
CNGA3	0.003425329	0.641715	0.476787	0.863694
B3GALT2	0.003693919	0.643758	0.478178	0.866674
NTSR1	0.003760124	1.548159	1.151922	2.080693
SPOCK1	0.004187111	1.554464	1.149371	2.102332
KRT81	0.004220411	1.55227	1.148555	2.097891
HIST1H2BF	0.0051062	1.528887	1.135865	2.057899
PNPLA7	0.005294881	0.652668	0.483555	0.880926
PCDH7	0.006252861	1.511825	1.124164	2.033169
GJB3	0.006340542	1.520961	1.125515	2.055347
HOXA13	0.006711387	1.509717	1.120862	2.033476
CHAD	0.006871018	0.661203	0.489846	0.892503
CYP4F8	0.007779235	1.506862	1.114136	2.038023
GLRA4	0.00813889	0.670006	0.498038	0.901352
SPANXB1	0.009474888	1.483798	1.10131	1.999127
HOXB9	0.009597872	1.482116	1.100444	1.996165
DSG3	0.010287291	1.474474	1.096048	1.983558
KLK13	0.010441426	0.679794	0.505926	0.913415
TENM1	0.010620462	0.675092	0.499417	0.912563
LAMC2	0.011505187	1.468596	1.090058	1.978586
HIST1H4A	0.011687888	1.464335	1.08864	1.969683
ACP7	0.011756303	1.465147	1.088511	1.972103
EREG	0.011901895	1.473616	1.089339	1.993453
AFM	0.012848501	1.459239	1.083503	1.965272
EPGN	0.013172748	1.452666	1.081326	1.951529
C11orf16	0.013786216	0.687321	0.509995	0.926303
SPRR1B	0.014446689	1.454763	1.077322	1.964439

CLDN2	0.014909705	0.691895	0.514356	0.930716
SH2D5	0.015392859	1.449209	1.073476	1.956454
C10orf71	0.015397901	0.693844	0.516241	0.932548
TTLL10	0.016384975	0.694604	0.515827	0.935342
KCNK16	0.017836572	0.697677	0.517969	0.939735
PRL	0.018278059	1.431354	1.062666	1.927957
MGAT5B	0.018602306	1.424734	1.060965	1.913227
NLRP10	0.01886138	1.431244	1.06108	1.930543
C14orf180	0.021167864	0.704985	0.523702	0.94902
STUM	0.021237913	0.706123	0.525183	0.949401
FRMPD2	0.021280194	0.70613	0.525143	0.949495
GAL	0.02134257	1.417673	1.053208	1.908262
SBSN	0.022495878	1.415573	1.050251	1.907969
RHCG	0.022623429	1.410519	1.049429	1.895854
EPPIN-WFDC6	0.022688694	0.70955	0.52821	0.953146
G6PC	0.022893756	1.417907	1.04957	1.915509
ZPBP2	0.023034412	0.707117	0.524448	0.95341
SLC22A10	0.023994377	0.707396	0.52375	0.955437
AMBN	0.024448287	1.406811	1.044982	1.893923
MMP3	0.026916705	1.398328	1.039042	1.88185
ZMAT4	0.02909918	1.389111	1.034029	1.866125
DAZL	0.029443743	0.721163	0.53734	0.967871
KRT76	0.029898005	1.388028	1.032448	1.866073
GPC6	0.030057219	1.388621	1.032194	1.868126
SERPINB4	0.031084042	1.383127	1.02993	1.857446
PI3	0.031092207	1.38488	1.030034	1.86197
GPR1	0.032377795	1.383963	1.027674	1.863776
KLK12	0.032393947	0.72575	0.541074	0.973458
OTOP2	0.032490713	1.384706	1.027521	1.866055
HS3ST3A1	0.033121303	1.37837	1.026035	1.851694
KIAA1549L	0.035502543	1.372514	1.02171	1.843766
KCNG1	0.036721149	1.368655	1.019553	1.837293
UPK1B	0.036751559	1.373113	1.019708	1.848999
F2	0.037993244	1.370908	1.017633	1.846823
BPIFB2	0.039957091	0.733282	0.545409	0.98587
CEACAM7	0.040540735	1.364302	1.013472	1.836578
CRP	0.04103548	1.360398	1.012613	1.82763
TEX13B	0.041392632	1.360987	1.012103	1.830135
PSG9	0.043214206	1.360924	1.009445	1.834784
HIST1H2BO	0.044662834	1.354779	1.007263	1.822191
PRDM9	0.04470821	1.352664	1.007162	1.816688
SPOCK3	0.045529138	1.354969	1.00606	1.824884
WFDC6	0.046033236	0.737529	0.546872	0.994654

LYPD3	0.046901303	1.361372	1.004236	1.845517
GNRH2	0.047292994	0.740186	0.549848	0.996412
CRB2	0.048194916	0.737425	0.545113	0.997585
EMX2	0.048969005	1.344806	1.00134	1.806084
KRT38	0.050916898	0.746355	0.556396	1.001167
CASP14	0.051095476	1.342601	0.998598	1.805108
PSG3	0.051664275	1.34659	0.997855	1.817203
COL12A1	0.05256155	1.341388	0.996754	1.805181
SPRR2E	0.053868531	1.340733	0.995134	1.806354
TRIML2	0.057648291	1.329445	0.990802	1.78383
ANXA13	0.058720724	1.327983	0.989597	1.782078
SLC6A19	0.058866658	1.331194	0.98934	1.791172
APOA1	0.059509952	0.753602	0.561511	1.011407
FAM83B	0.060346013	1.32662	0.98778	1.781691
ADGRB1	0.061292407	0.753741	0.560573	1.013472
MTMR7	0.062536389	0.755939	0.563136	1.014754
COL11A1	0.063591917	1.327306	0.984111	1.790186
FGF19	0.06517247	1.321297	0.982643	1.776663
SLC6A2	0.069037693	1.314847	0.97888	1.766124
SLC6A5	0.070834317	1.314085	0.97707	1.767344
PRSS33	0.07149065	0.760645	0.564902	1.024214
SLC16A11	0.072028936	0.7624	0.567309	1.024581
A2ML1	0.0728656	1.310136	0.975267	1.759987
CD109	0.075292709	1.31128	0.972757	1.76761
CREG2	0.075721972	1.317111	0.971883	1.784968
NLRP7	0.07613009	0.76127	0.563157	1.029077
KRT14	0.076240939	1.305424	0.972274	1.752728
CRH	0.079043864	1.302396	0.96982	1.74902
PNMA5	0.07932957	0.767696	0.571399	1.031427
LVRN	0.079495606	1.303117	0.969327	1.75185
HIST2H2AB	0.079768436	1.301984	0.969167	1.749091
HIST1H3J	0.081585013	1.300763	0.967562	1.748707
TWIST1	0.082089773	1.301464	0.967023	1.75157
C1orf94	0.08361294	1.296798	0.966058	1.740769
PSG5	0.084116739	1.30089	0.965186	1.753357
CCDC154	0.084608404	0.766287	0.566241	1.037006
TMEM59L	0.084745574	0.771482	0.574401	1.036185
NCCRP1	0.085524984	1.294833	0.96451	1.738284
HMGA2	0.086690243	1.294857	0.963452	1.740258
ECEL1	0.092384535	1.290266	0.95892	1.736106
RPTN	0.09270665	1.288399	0.958869	1.731179
HIST1H2AL	0.092786704	1.289638	0.958646	1.734911
PENK	0.093085884	0.775522	0.57642	1.043396
HIST1H4F	0.093608488	1.289813	0.95791	1.736716

TRH	0.095766065	0.777821	0.578742	1.045381
RPE65	0.098141473	1.284661	0.954708	1.728649
CELA3B	0.098749805	0.780046	0.580828	1.047593
SLC1A6	0.098796778	1.281063	0.954657	1.71907
SYT9	0.099230472	1.28041	0.954388	1.717801
MORC1	0.102191317	0.781424	0.581341	1.050371
MAFA	0.102391775	1.277963	0.952141	1.715281
TDGF1	0.102700217	0.782592	0.582999	1.050516
MYT1	0.104936987	0.783334	0.583106	1.052317
SPRR2D	0.105168817	1.279868	0.949587	1.725027
CPA4	0.105232434	1.277556	0.949895	1.718242
TMEM196	0.105465907	1.275844	0.949975	1.713498
MYL2	0.106287996	0.784463	0.584297	1.0532
DNAI2	0.10748428	0.784636	0.583995	1.054211
ATP4B	0.107861554	0.785681	0.585537	1.054237
ANXA10	0.108672229	1.272668	0.94793	1.708653
EBF3	0.108881662	0.785772	0.585189	1.055108
STEAP1B	0.111418673	1.272413	0.945812	1.711794
HIST1H4D	0.112714032	1.270508	0.945131	1.707901
TAS2R46	0.112946333	1.272278	0.94464	1.713555
TUNAR	0.113956004	0.788774	0.58773	1.05859
SLC38A8	0.114485589	0.78925	0.588271	1.058892
SPANXC	0.114766249	1.268587	0.943886	1.704985
MUCL1	0.116181829	1.26677	0.943134	1.701462
DNAAF1	0.116689626	0.789257	0.587234	1.060781
KRTAP16-1	0.117968778	0.791624	0.5906	1.061072
CTNND2	0.120639384	0.785589	0.579229	1.06547
UNC5D	0.120805089	1.26155	0.940647	1.69193
ABCC12	0.12123134	0.788313	0.583503	1.065011
LINC01314	0.121552885	0.78939	0.585159	1.064901
EVX1	0.12228204	1.261873	0.939487	1.694886
CACNG7	0.124196255	1.261743	0.938096	1.697049
HCRTR2	0.125297594	0.794199	0.591534	1.066298
CSMD3	0.125348262	1.258883	0.937838	1.689829
LIN28A	0.126368992	0.794438	0.591447	1.067098
MSTN	0.129215844	0.793899	0.589221	1.069674
HIST1H3D	0.129830245	1.256629	0.935067	1.688774
PAQR9	0.131826797	1.258039	0.933317	1.695738
CPA1	0.132076319	0.795421	0.59051	1.071437
SSX3	0.132686284	0.79711	0.593123	1.071251
FER1L6	0.133269257	1.25222	0.933599	1.679581
GDF6	0.133501931	1.252793	0.933304	1.681651
REG4	0.134339398	1.254321	0.932361	1.687459
CACNG1	0.136155298	0.797782	0.592713	1.073802

TRPA1	0.13728376	1.250954	0.931072	1.680737
GRIK1	0.138649928	1.248614	0.93068	1.675157
COLEC11	0.140159399	0.800957	0.596409	1.07566
RALYL	0.141477205	0.801494	0.596755	1.076475
HHLA1	0.142598502	1.247388	0.928258	1.676234
S100A7	0.144635704	1.245588	0.92732	1.673091
PRSS3	0.146025506	1.243863	0.926821	1.669358
DEFB4A	0.149227729	0.805254	0.59993	1.08085
TTLL8	0.149465031	0.805287	0.599884	1.08102
TRIM48	0.149836605	0.805681	0.600417	1.081119
CPB1	0.150401013	0.8042	0.597569	1.082282
KRT6A	0.153099514	1.253013	0.919543	1.707415
LRRC74B	0.153771256	0.807756	0.602381	1.083151
SSX1	0.154028774	1.23941	0.922669	1.664885
IFNK	0.154726473	1.240425	0.921923	1.668963
FAM9B	0.155957471	1.23725	0.922007	1.660278
SERPINB7	0.157445011	1.235797	0.921452	1.657378
ADH7	0.160316975	0.808782	0.601403	1.087669
TAC3	0.162254933	1.233357	0.919054	1.655147
RBM46	0.165221155	1.232099	0.917532	1.654512
GDPD2	0.165485636	1.231481	0.917553	1.652816
KRT6B	0.165526215	1.235128	0.916407	1.6647
GALP	0.166405863	1.230688	0.917212	1.651299
HIST1H1D	0.168677971	1.23054	0.915814	1.653423
KRTAP9-1	0.168723528	0.813321	0.605996	1.091578
SPRR3	0.169965089	1.230465	0.915021	1.654657
SNTG1	0.170052177	1.230357	0.915	1.654403
CLCNKA	0.1709448	0.812245	0.603122	1.093879
CARTPT	0.171591188	0.814042	0.606101	1.093323
SALL3	0.172234105	0.814976	0.607527	1.093261
HIST1H4E	0.172732127	1.226957	0.914407	1.646338
4-Mar	0.174851478	1.22631	0.913294	1.646606
CGB5	0.176000231	1.225093	0.912984	1.643898
SCGB3A2	0.17647035	0.814929	0.605681	1.096467
CFAP100	0.176958873	0.816008	0.607444	1.09618
PPY	0.177670298	0.816277	0.607642	1.096547
PTH2R	0.178457084	0.817619	0.609773	1.096312
HIST1H1E	0.179491	1.222716	0.911631	1.639955
LRRC26	0.180787866	0.818144	0.609777	1.097713
SAGE1	0.181359452	1.223039	0.91037	1.643095
LYPD4	0.182905333	1.223156	0.909377	1.645203
MRGPRX3	0.182933251	1.221135	0.910069	1.638524
BMX	0.183241647	0.817351	0.607311	1.100036
RHAG	0.183277211	1.22228	0.909456	1.642707

ADCYAP1	0.183547497	0.814715	0.602351	1.101949
SCGB3A1	0.187047291	0.819004	0.608793	1.1018
SPATA22	0.187410776	0.819427	0.609425	1.101793
ACTL8	0.188178867	1.219377	0.907504	1.638429
PSORS1C2	0.189920168	1.216652	0.907452	1.631208
VWA3A	0.191335061	0.819592	0.608126	1.104591
CHRM1	0.192552252	0.821954	0.612023	1.103893
RTL1	0.193185801	1.218391	0.904836	1.640604
NETO1	0.193783297	1.2167	0.905113	1.635551
S100A7A	0.193906339	1.21504	0.905668	1.630091
KCNK2	0.193919405	1.216337	0.905169	1.634475
GREM1	0.194440351	1.21757	0.904388	1.639204
HTR3E	0.194579365	0.823372	0.613853	1.104405
CFAP157	0.198807969	0.823059	0.611557	1.107708
RSPH6A	0.20025387	0.823902	0.612556	1.108167
KIR2DL1	0.200837276	0.824709	0.613841	1.108016
TAS2R13	0.200898632	0.825616	0.615526	1.107413
CDH12	0.201971502	1.212858	0.90172	1.631355
PSG1	0.202845897	1.210988	0.901951	1.625912
HIST2H2AC	0.203031189	1.211128	0.901786	1.626586
HIST1H2AI	0.204339867	1.209659	0.90161	1.622958
HRG	0.205361906	1.210536	0.900654	1.627036
KRT23	0.208162407	1.207648	0.900205	1.620091
GSTA2	0.208242694	0.826761	0.614752	1.111885
CNTN5	0.208543362	0.828488	0.617922	1.110807
AFF2	0.208984874	0.82851	0.617788	1.111107
SEC14L3	0.20925422	0.827064	0.614924	1.112389
GCG	0.209370166	1.208357	0.899207	1.623795
NPY5R	0.209529626	0.828353	0.617272	1.111616
KRT20	0.211203587	1.206824	0.898784	1.620439
RNASE7	0.211660169	1.205991	0.898873	1.618043
CYP11A1	0.212219709	0.829949	0.619255	1.112327
ZPLD1	0.212538308	1.205722	0.89848	1.618027
MCCD1	0.213425473	0.829502	0.61792	1.113532
HIST1H4C	0.218523581	0.831791	0.620309	1.115375
HIST1H2BI	0.220151509	0.831791	0.619665	1.116533
SNX31	0.220315678	1.201255	0.895969	1.610561
TAAR1	0.22059219	1.203357	0.894872	1.618185
TTLL9	0.222952712	1.201051	0.894559	1.612552
PCDH8	0.223590696	0.832704	0.620077	1.118242
PRR4	0.223880966	0.833007	0.620552	1.1182
DLK1	0.224205253	1.199834	0.8944	1.609573
TPH1	0.224963325	0.832594	0.61932	1.119312
KCNA4	0.225830225	0.83213	0.618075	1.120317

PRDM13	0.226035811	1.198445	0.894003	1.606561
VSX2	0.22608441	0.834225	0.622058	1.118757
ST18	0.226671925	0.833391	0.620199	1.119868
KLK5	0.229728412	1.196907	0.89264	1.604885
DLEC1	0.233309689	0.834384	0.619523	1.123762
HIST1H4L	0.234019101	1.195216	0.891041	1.603227
C9orf135	0.234954452	0.836253	0.622554	1.123307
APOA5	0.235203824	0.836628	0.623196	1.123155
TRPM5	0.236878121	0.837016	0.623308	1.123997
CLCA1	0.242596423	0.838845	0.624702	1.126395
NRSN1	0.24519151	1.190982	0.886924	1.599278
RERGL	0.245824711	0.839969	0.625687	1.127637
TUBA3E	0.246453628	1.189949	0.886757	1.596807
HIST2H2BF	0.247197855	1.189162	0.886752	1.594703
LRFN2	0.247406209	0.840587	0.626309	1.128175
RETNLB	0.248532826	1.190088	0.885536	1.599382
SNAI2	0.249082548	1.188061	0.886289	1.592584
DKK4	0.249503955	1.189929	0.885081	1.599774
CILP	0.249921464	1.188588	0.885553	1.595321
IFITM5	0.251160484	0.841873	0.627436	1.129597
LIPF	0.252212698	0.84223	0.627747	1.129995
ENO3	0.255265334	0.842707	0.627525	1.131676
AGTR2	0.25579125	0.842592	0.627087	1.132157
HIST1H2BG	0.256430825	1.186012	0.883353	1.59237
SCN5A	0.260187704	1.183591	0.882628	1.587179
GRM4	0.260653126	0.844972	0.630044	1.133219
IFNE	0.261618242	1.185066	0.881032	1.594018
HTR3C	0.261848439	0.844481	0.628575	1.134547
ALPI	0.262424101	1.183017	0.881732	1.587252
CACNG8	0.262689298	1.18223	0.882028	1.584607
GPR52	0.263772609	0.845501	0.629917	1.134867
GLTPD2	0.264564546	0.844746	0.62806	1.13619
ACTN3	0.264664045	0.845141	0.628831	1.135858
SPRR2A	0.264925851	1.185154	0.879168	1.597636
SLC2A2	0.265038761	1.181621	0.881099	1.584643
PSG4	0.266474831	1.184233	0.878838	1.595751
MAPK15	0.266522041	0.845661	0.629177	1.136632
KRTAP29-1	0.268370918	0.846846	0.6309	1.136707
S100A12	0.271654557	1.178978	0.879047	1.581244
SLC39A5	0.272184234	1.181869	0.877074	1.592584
CHRDL2	0.272260525	0.847376	0.630485	1.138879
MPC1L	0.273449183	1.178703	0.878242	1.581958
CELF3	0.27729208	0.849263	0.632456	1.140391
HSD17B13	0.27881373	0.846375	0.625846	1.144611

CREB3L3	0.280686711	1.177142	0.875275	1.583118
ASPG	0.280897026	0.851072	0.63485	1.140937
C1orf64	0.281701566	0.850826	0.634021	1.141768
LAMA1	0.281710793	1.175923	0.875466	1.579496
FAM25A	0.281965776	1.176017	0.875272	1.5801
TEX101	0.283528138	0.85043	0.63248	1.143486
CTRB1	0.283590762	0.851316	0.634319	1.142545
LCE3D	0.284730745	1.174148	0.874942	1.575673
CDH16	0.285628084	1.173174	0.875068	1.572835
DEFA6	0.285950062	1.173651	0.874599	1.574958
SLC46A2	0.286986006	0.851766	0.633953	1.144416
VIT	0.287096295	1.173323	0.874193	1.57481
CEACAM8	0.288140556	0.852866	0.635834	1.143979
MDGA2	0.288459746	1.173368	0.873436	1.576296
APCDD1L	0.288482684	1.173144	0.873565	1.57546
C6orf58	0.291672127	1.172342	0.87237	1.575461
VWA5B2	0.291874499	1.172407	0.87222	1.575906
CALML5	0.293682157	1.171096	0.872097	1.572607
SH2D6	0.293784454	0.854371	0.636852	1.146185
CFAP65	0.29818285	0.854559	0.635544	1.149048
HIST1H2BB	0.30011815	0.85619	0.638299	1.14846
PGC	0.300163717	0.855363	0.636501	1.149481
GCK	0.3027193	0.856822	0.638655	1.149516
C11orf87	0.304663746	0.856847	0.637953	1.150847
MYH13	0.306461779	1.167478	0.867693	1.570838
CPB2	0.306728748	0.858019	0.639695	1.150856
PCP4	0.306969246	0.857849	0.639232	1.151233
C1orf158	0.307087947	0.857412	0.638234	1.151857
CXorf67	0.307303196	0.857234	0.637765	1.152227
HOXB1	0.307816593	0.858604	0.640547	1.150893
IGFL1	0.311282103	1.164856	0.86694	1.565149
SI	0.311646822	1.163789	0.867492	1.56129
DCAF4L2	0.31221447	1.163828	0.867165	1.561981
PSG8	0.312373213	1.164247	0.866788	1.563785
ITIH1	0.314912871	0.855951	0.631984	1.15929
LRRC15	0.3152925	1.163784	0.86557	1.564743
NNAT	0.315740946	0.858885	0.638072	1.156114
SLC28A2	0.317740577	0.860344	0.640498	1.15565
LCN15	0.319148434	1.161008	0.86552	1.557376
TBX20	0.319220578	1.161524	0.86511	1.559499
WFDC12	0.322903978	0.862062	0.642284	1.157044
TNNT3	0.323938231	0.862471	0.64279	1.15723
CA6	0.327360495	0.863514	0.64378	1.158246
SYNPR	0.32834604	0.862765	0.64172	1.15995

CRISP2	0.329018796	0.863907	0.644014	1.158882
UGT3A1	0.329144934	0.863899	0.643945	1.158982
KCNK10	0.33194417	0.863862	0.642765	1.161011
RHOXF2	0.332851681	0.865121	0.645245	1.159925
ADAMTSL1	0.333173432	0.864767	0.644318	1.16064
MAB21L2	0.334284356	0.864626	0.643564	1.161621
GADL1	0.335724026	0.865397	0.64474	1.161571
FAM9A	0.337154605	1.154958	0.860603	1.549992
MSMB	0.338720243	0.866281	0.645568	1.162454
L1CAM	0.340874657	1.15339	0.859883	1.547083
SERPINE2	0.341716051	1.153601	0.859275	1.548742
MYOD1	0.341900662	1.153742	0.859067	1.549495
KLK14	0.343040342	0.867648	0.646984	1.163572
TEX37	0.343777106	1.153711	0.858106	1.551147
VGLL2	0.344611447	1.152228	0.858852	1.545819
GLP2R	0.344663173	1.15301	0.858199	1.549096
MEP1B	0.345167821	0.868382	0.647829	1.164021
SLC12A3	0.348735648	0.86865	0.647038	1.166164
WFDC5	0.34911412	0.868865	0.647383	1.166119
CACNG2	0.34982038	1.15062	0.857426	1.544069
GSTA3	0.350483009	0.867926	0.644678	1.168483
PEX5L	0.351831768	1.149947	0.856926	1.543163
SVOP	0.35343816	1.148638	0.857169	1.539217
MYRFL	0.354680093	1.149342	0.855934	1.543328
MROH2B	0.356060777	0.868004	0.642629	1.172421
UNC13C	0.357031443	0.870595	0.648253	1.169196
MAGEB17	0.358128378	1.147374	0.855781	1.538323
OLIG3	0.358771134	0.871644	0.650012	1.168846
HHATL	0.359698412	0.871214	0.648638	1.170167
HIST1H2BJ	0.360137724	1.147222	0.85486	1.539572
LEP	0.360898218	1.146461	0.85511	1.537081
AGXT2	0.36277411	1.146182	0.85437	1.537662
AQP7	0.362973781	0.871421	0.647814	1.172211
LRRTM3	0.363543856	1.145545	0.854516	1.535691
TMEM229A	0.363964647	0.869822	0.643672	1.175429
ODF3	0.364859136	1.14559	0.85379	1.537118
TAC1	0.365272855	1.14512	0.853981	1.535515
MSLNL	0.365378625	1.147283	0.85205	1.544816
CHGB	0.365623123	0.872748	0.649874	1.172056
PRR9	0.366216359	1.145179	0.853436	1.536652
MUC22	0.366340712	0.873562	0.65151	1.171296
HSD3B1	0.367801234	1.1448	0.852937	1.536534
C10orf90	0.368630918	1.144235	0.852999	1.534907
KCNU1	0.372482508	1.143549	0.851588	1.535606

KIR3DX1	0.373718361	1.143008	0.851423	1.534451
UMOD	0.373769534	0.875044	0.652058	1.174285
KLRF2	0.373847498	1.144297	0.850201	1.540125
FOXL2NB	0.375893849	1.141503	0.85164	1.530023
MYO18B	0.379969244	0.876911	0.654047	1.175717
HIST1H2BM	0.382043995	1.139515	0.850245	1.527202
CALML3	0.3822489	0.877282	0.654023	1.176754
TCHHL1	0.383334732	1.139682	0.849413	1.529144
KCNH6	0.387448061	0.878627	0.655184	1.178271
CCDC17	0.388684188	0.877255	0.651343	1.181523
HMP19	0.389333737	1.138173	0.847678	1.528221
SLC35F4	0.390976221	1.13786	0.84711	1.528403
TRIM49	0.391306211	0.879301	0.655266	1.179934
TNMD	0.394556722	0.8802	0.65615	1.180756
HIST1H2AD	0.397369178	1.135281	0.846238	1.52305
ALB	0.397986525	1.134789	0.846397	1.521445
AFP	0.400925484	1.134438	0.845195	1.522667
SPANXD	0.404909052	1.133919	0.843604	1.524143
HIST1H2AJ	0.40720403	1.132352	0.843973	1.519268
FAM83C	0.407386207	1.133403	0.842809	1.524192
GPR142	0.407599863	1.134929	0.841147	1.531317
SLC39A2	0.410438066	1.131477	0.843156	1.518392
HIST1H2AM	0.410517454	1.131427	0.843166	1.518238
S100A2	0.412539861	1.131173	0.842356	1.519016
IDI2	0.413340131	0.882901	0.655117	1.189884
GPR22	0.413715065	0.884852	0.659891	1.186503
TAS2R50	0.414011503	1.129904	0.842895	1.514639
IRX4	0.41457362	1.129829	0.842676	1.514834
HIST2H3D	0.416152336	1.12939	0.8423	1.514331
GABRG3	0.418143717	1.13056	0.840005	1.521618
HEPACAM2	0.418190249	0.88484	0.657996	1.189888
MME	0.420966388	1.129412	0.839711	1.519061
CLCA4	0.421455812	0.886264	0.660263	1.189621
SOX3	0.422378956	1.129689	0.838656	1.521718
PRAP1	0.424215168	0.886899	0.660739	1.190471
ATCAY	0.425344319	1.127199	0.839753	1.513037
CYP2C9	0.426881095	1.126776	0.839393	1.512551
FAM205C	0.427030193	1.126437	0.839684	1.511117
EIF4E1B	0.43114315	1.12517	0.838883	1.50916
C6orf15	0.431503211	1.124998	0.838883	1.508697
GPR12	0.436579484	1.125246	0.835873	1.514797
CSTL1	0.437282464	0.889856	0.662895	1.194522
PIRT	0.439720381	1.122571	0.837221	1.505177
BPIFB4	0.444790035	0.891835	0.664915	1.196198

UGT2B11	0.446656133	1.121552	0.834659	1.507057
MFAP5	0.446795044	1.121272	0.834913	1.505846
TAS2R30	0.450115997	0.893345	0.666658	1.197113
TAS2R38	0.455205134	0.89443	0.667381	1.198721
IGF2	0.456415361	1.117919	0.833702	1.499029
TRIM49C	0.456486257	0.89421	0.66623	1.200203
OR2W3	0.456669742	1.118723	0.832585	1.5032
DAPL1	0.457221102	0.893611	0.664288	1.202098
FGF5	0.461615614	1.118883	0.829669	1.508915
PHGR1	0.462257974	1.116571	0.832176	1.498156
ATOH1	0.464826509	1.115401	0.832234	1.494915
TF	0.466023803	0.896663	0.66875	1.20225
NPTX2	0.467351223	1.115193	0.831114	1.496372
UGT2B28	0.470741864	0.896709	0.666789	1.20591
OR6T1	0.472705579	1.11346	0.830384	1.493037
NTSR2	0.475083375	1.1128	0.829931	1.49208
SLC17A6	0.47614531	0.898874	0.670403	1.205208
KRT31	0.476592084	1.113855	0.82772	1.498905
HTR7	0.479330571	0.898539	0.668037	1.208576
ADIPOQ	0.480733322	1.111163	0.828961	1.489435
TTR	0.481814159	0.900131	0.671399	1.206788
HMX3	0.48226904	0.900121	0.671166	1.20718
HDGFL1	0.483166783	0.900085	0.670661	1.207993
PNPLA5	0.48468276	1.111103	0.826843	1.493089
LCN9	0.486674606	0.901038	0.671778	1.208538
DCAF8L1	0.487661974	0.901406	0.67238	1.208443
SHISA9	0.488470053	1.109255	0.827228	1.487434
MYH8	0.489360356	1.109745	0.826061	1.490852
STMN2	0.49633664	1.107154	0.825727	1.484498
ARHGAP36	0.498928045	1.106981	0.82451	1.486224
MTTP	0.499955589	0.904133	0.674626	1.211717
INSRR	0.500067111	1.106262	0.824885	1.483618
ASGR2	0.50048176	1.106431	0.82441	1.48493
CCDC114	0.500995877	0.902931	0.670648	1.215668
QRFPR	0.50114566	0.904478	0.675083	1.211821
SLC7A3	0.503981373	0.904983	0.675252	1.212873
SLC5A12	0.5054073	0.904471	0.673086	1.215399
EPHA5	0.519029134	0.907667	0.676157	1.218445
FGFBP2	0.520171822	0.908291	0.677492	1.217715
SOHLH1	0.520592833	1.101381	0.820337	1.478708
COL25A1	0.521003785	0.908079	0.676454	1.219013
VCX3B	0.521544042	1.100536	0.821081	1.475103
TBPL2	0.522991041	0.908034	0.675368	1.220856
PRG4	0.524231397	0.909185	0.678263	1.218727

SHCBP1L	0.524534577	0.908903	0.677261	1.219774
NPPB	0.528369824	1.099527	0.818678	1.476722
ALDOB	0.528547957	0.910186	0.679247	1.219644
CTRB2	0.529340242	0.910009	0.678322	1.220833
FGF17	0.533618157	1.098544	0.817149	1.47684
TFF2	0.534176756	1.099221	0.815736	1.481222
P2RY4	0.537209206	1.097422	0.816828	1.474403
PRAC1	0.538682586	1.096285	0.817806	1.469591
KCNK12	0.539089709	1.09631	0.817524	1.470166
SPAG11A	0.540188929	0.912411	0.680468	1.223413
FRG2	0.543125554	0.912874	0.680473	1.224648
SCN3A	0.543478071	0.913132	0.681109	1.224195
LGALS7B	0.54412552	0.912845	0.679885	1.22563
KCNT1	0.545062319	0.911478	0.675114	1.230595
AKR1C4	0.546082039	1.094757	0.815938	1.468854
HSD3B2	0.548961823	0.914093	0.681421	1.226211
KRT34	0.549596006	1.095085	0.81327	1.474555
HIST1H3F	0.551086818	1.094119	0.814007	1.47062
TUSC5	0.552485207	0.914854	0.682081	1.227064
CLVS2	0.552902289	1.093213	0.814459	1.467373
SLC22A9	0.553951808	1.092437	0.81516	1.464031
F7	0.557307658	1.092208	0.813527	1.466354
APOH	0.564424325	0.916664	0.681843	1.232354
HIST1H3B	0.569269958	1.089296	0.811376	1.462413
TMIGD1	0.574132455	1.087832	0.81105	1.459069
COL9A3	0.574258313	1.087921	0.810807	1.459746
SPRR1A	0.574628862	1.088875	0.808807	1.465924
KRTDAP	0.575590025	0.918949	0.683559	1.235397
SAG	0.57982902	0.920069	0.685074	1.235672
HIST1H3C	0.583356509	0.920888	0.685968	1.23626
LRRC38	0.584231915	1.086762	0.806698	1.464056
ASCL1	0.584340338	0.920895	0.685464	1.237188
CYP2B6	0.58510476	0.921268	0.686325	1.236637
CRISP3	0.588068814	1.085216	0.80723	1.458931
SST	0.588234284	0.922217	0.687894	1.236358
INS	0.590962383	1.083628	0.808495	1.452389
PLA2G6	0.591169261	0.922366	0.686816	1.238701
SLC7A9	0.591430126	1.08377	0.807917	1.453808
VTN	0.594741057	0.922712	0.686056	1.241002
HIST1H2BL	0.59611186	1.082562	0.807318	1.451647
SCGB2A2	0.597101518	1.082191	0.807429	1.450453
KNG1	0.597923902	1.082014	0.807256	1.450288
C1QTNF8	0.599931506	0.924687	0.690117	1.238987
GSG1L2	0.601853339	1.082039	0.804648	1.455057

GAGE2A	0.601933874	0.924793	0.68938	1.240596
NKX2-2	0.60498023	1.080355	0.806077	1.447959
HIST1H4B	0.612158296	1.078704	0.804835	1.445767
PCDH11Y	0.612499802	0.926935	0.691107	1.243236
ESX1	0.618826383	1.077457	0.803082	1.445574
HIST1H3I	0.620184277	1.077504	0.802061	1.44754
CFAP73	0.621065812	1.077261	0.802	1.446999
NEUROG3	0.621305819	0.928528	0.691862	1.246149
AKR1B10	0.622340674	0.92786	0.688785	1.249916
KRT37	0.622456105	0.927827	0.688596	1.250172
CDH9	0.622784625	0.92896	0.692602	1.245978
HIST1H1A	0.625358451	0.928774	0.690395	1.24946
KCNE2	0.632966565	1.074637	0.799759	1.44399
GABRA4	0.635133367	0.931327	0.694192	1.249466
PRODH2	0.642282167	0.932904	0.69593	1.25057
PHACTR3	0.645906295	1.071399	0.798333	1.437865
SLC17A4	0.648936521	1.070582	0.798172	1.435964
ANHX	0.649318746	1.070261	0.798691	1.43417
BSND	0.650301098	0.93448	0.697162	1.252583
FRG2C	0.651580345	1.069802	0.798209	1.433804
PSG11	0.653016656	1.0698	0.797179	1.435652
NEB	0.653803052	1.069559	0.797213	1.434945
RSPO3	0.656910097	1.068623	0.797326	1.432232
HIST1H2BE	0.657025732	1.068679	0.797099	1.43279
ONECUT3	0.657742861	1.068984	0.7958	1.435947
CLCA2	0.658166275	1.06825	0.797365	1.431161
FGF3	0.658358888	1.070038	0.79266	1.44448
SPINK1	0.65865425	1.069732	0.79322	1.442635
UBE2U	0.661902282	0.93658	0.698244	1.256269
TM4SF5	0.664387297	1.067243	0.795399	1.431994
LRRC71	0.66460646	0.937015	0.69827	1.257389
PPP1R3A	0.667749212	0.937823	0.699554	1.257247
CCKAR	0.668276604	0.937991	0.699906	1.257065
SPAG11B	0.669824115	0.938232	0.699891	1.257738
HIST1H2AB	0.672373454	1.065497	0.794067	1.429709
OBP2B	0.674081847	0.938733	0.699158	1.260401
SLC3A1	0.674328927	0.938688	0.698802	1.260922
SPRR2G	0.674519417	1.065151	0.793379	1.430019
LPA	0.678033347	1.06407	0.793673	1.426588
GNAT3	0.678626173	0.939954	0.701281	1.259857
PROKR1	0.67880863	0.939621	0.699736	1.261746
PHOX2B	0.679782796	0.940079	0.70103	1.260643
CELA3A	0.683733548	0.940346	0.699468	1.264175
BRINP2	0.68522154	1.062402	0.792823	1.423644

APOC3	0.685738398	1.063799	0.788426	1.435351
PAX2	0.685933186	1.062357	0.792396	1.424289
MYPN	0.688859203	1.061825	0.791635	1.424233
IGDCC3	0.694296406	0.942809	0.702878	1.264642
CYP11B1	0.695112027	0.943045	0.703351	1.264424
CFAP46	0.696737597	0.943118	0.702519	1.266119
S100G	0.69841821	0.943101	0.701229	1.268401
PRB1	0.698602176	0.943735	0.703957	1.265184
PSG6	0.701193511	1.05914	0.789758	1.420405
HIST1H2BH	0.701417792	1.059161	0.789508	1.420914
TSPYL6	0.701486562	0.944195	0.703958	1.266416
LGALS14	0.701513593	1.059482	0.788446	1.423689
FOXI1	0.707871648	0.944604	0.701123	1.272641
ZBTB20	0.710299874	0.945772	0.704734	1.269252
SOST	0.710458002	1.05721	0.788139	1.418141
CBLN1	0.713454039	0.946415	0.70538	1.269815
TBX10	0.713483548	0.946121	0.703967	1.271571
TSPY1	0.717038985	1.05572	0.787402	1.415473
SPIC	0.719506486	1.055269	0.786782	1.415375
XAGE3	0.720614608	0.947746	0.706245	1.271827
ACTL6B	0.720901337	1.055174	0.785894	1.41672
TMEM207	0.721294379	1.05492	0.786403	1.415123
TRPM8	0.723099782	1.054354	0.786743	1.412993
PRH2	0.723297102	0.948258	0.706641	1.272491
FABP7	0.724930337	0.948621	0.707129	1.272585
OTOS	0.725833803	1.05438	0.784263	1.417531
AGXT	0.727349574	1.053588	0.785645	1.412912
REG3A	0.727825089	0.949326	0.708309	1.272353
HTR3B	0.728671479	0.949259	0.707304	1.273982
DPPA2	0.730889352	0.949829	0.708367	1.273599
LGALS13	0.732490304	1.052668	0.784284	1.412893
PRSS48	0.733469851	0.950098	0.707629	1.275649
CHRNA9	0.733901272	1.053311	0.780736	1.421049
GABRA2	0.736480518	1.051567	0.784608	1.409359
MGARP	0.738555834	0.951262	0.70937	1.275638
NKX2-4	0.740168497	1.050914	0.783616	1.40939
FBN2	0.742970814	1.05059	0.78222	1.411033
ALLC	0.743071449	1.051137	0.780099	1.416345
SMLR1	0.746258836	0.952769	0.710741	1.277214
CERS3	0.747713253	0.953057	0.711021	1.277484
DPPA5	0.748089233	0.953108	0.71097	1.277712
PMP2	0.750302039	0.953337	0.71028	1.279566
BARHL2	0.751205114	1.048731	0.781488	1.407362
CALCA	0.751563713	1.048654	0.781442	1.407238

BHMT	0.756117633	0.954504	0.711481	1.280537
SPRR2F	0.756805651	1.047903	0.779306	1.409075
DEFA5	0.757599607	0.954755	0.711538	1.281109
BPIFA1	0.75819504	1.04711	0.781105	1.403703
TMEM190	0.758654161	0.954932	0.711564	1.281536
UGT1A1	0.759821161	0.955136	0.711643	1.281941
GRIA2	0.762100055	0.955459	0.71137	1.283301
GIF	0.762558063	0.955846	0.713116	1.281198
SLC7A14	0.762694013	0.955569	0.711445	1.283462
SP7	0.763105983	0.955849	0.712634	1.282071
EFCAB8	0.76547738	0.955839	0.710399	1.286077
GAD2	0.768379303	0.956794	0.713117	1.283739
SORCS3	0.769062159	1.045171	0.778217	1.403699
AC187653.1	0.76937119	1.044849	0.779263	1.400951
PRLHR	0.771929381	0.957621	0.714541	1.283396
COLEC10	0.774553264	1.043772	0.778557	1.39933
BNC1	0.777245371	1.043221	0.77816	1.398567
AC011473.4	0.77890456	1.043019	0.7773	1.399574
CLEC18C	0.782189213	0.959327	0.7147	1.287686
GFRA4	0.78228776	0.959513	0.715724	1.286341
SERPINA6	0.783468502	0.95979	0.716231	1.286174
GLYATL3	0.78448088	0.959801	0.715286	1.287901
MYBPC1	0.787974128	1.041103	0.776256	1.396311
COL11A2	0.788965455	0.960572	0.715488	1.289608
POU3F3	0.79063368	1.040466	0.776324	1.394482
SERPINB12	0.793533263	1.040037	0.775136	1.395467
BEX1	0.797481424	1.039303	0.774225	1.395138
GJA3	0.798146095	1.038965	0.775133	1.392598
GUCA2A	0.799973183	0.96284	0.718358	1.290527
POU3F2	0.801251117	0.963095	0.718648	1.29069
APOA2	0.803058134	1.038176	0.773388	1.393621
TCEAL5	0.805341766	0.963876	0.719351	1.291522
POU5F2	0.807228912	0.963665	0.715833	1.297301
ATP2B2	0.809451951	1.037263	0.770443	1.396489
AQP2	0.80951141	1.037004	0.771745	1.393436
KRTAP5-5	0.809513726	0.9645	0.718893	1.294016
PROK1	0.811049955	1.036426	0.772952	1.389708
STRA8	0.81223466	1.036163	0.772916	1.38907
FGF21	0.813840209	0.965342	0.71974	1.294752
LY6G6C	0.816860558	0.96573	0.718929	1.297256
PRORY	0.818811737	0.966335	0.720906	1.295319
HRH3	0.819005554	1.034859	0.771645	1.387859
CFAP74	0.81929216	1.03468	0.772295	1.386209
IL1A	0.823811022	1.03392	0.770829	1.386807

C1orf194	0.82547136	0.967465	0.721042	1.298106
PROZ	0.831632164	0.968676	0.722375	1.298955
ASIC2	0.832109399	0.96884	0.72302	1.298237
GPR26	0.833163022	1.032536	0.766518	1.390876
FABP1	0.833611143	0.969074	0.72288	1.299114
FLG2	0.83381109	0.968836	0.720792	1.302239
WIF1	0.83399451	0.968842	0.720596	1.302609
RTP1	0.834444433	0.969278	0.723376	1.298769
TTLL6	0.835354571	0.969374	0.722938	1.299814
C4orf26	0.839345835	1.031077	0.766997	1.386081
ZNF460	0.84001467	0.969913	0.720985	1.304788
SFRP1	0.8402409	1.03067	0.768352	1.382545
UGT2A1	0.841031771	1.030406	0.768942	1.380776
GLRA2	0.841275574	1.030499	0.76798	1.382755
ADAMTS19	0.844259728	1.030175	0.765769	1.385876
AMY1B	0.845073488	0.971153	0.724073	1.302546
HIST1H3A	0.845339085	0.971204	0.72412	1.302597
HIST1H1B	0.849415575	0.971756	0.722953	1.306184
REG1A	0.851027204	0.972169	0.724129	1.305172
CDH22	0.851812872	0.972498	0.7258	1.303048
TBC1D3E	0.85307886	1.028455	0.76423	1.384033
OTOP1	0.853172593	0.972719	0.725726	1.303774
PSG2	0.855777842	0.973202	0.726088	1.304419
PSAPL1	0.856564129	0.973223	0.725094	1.306264
MYH7	0.85769836	0.973307	0.724116	1.308251
DNAI1	0.858225689	1.027178	0.765365	1.378551
C21orf62	0.858836413	0.972933	0.719043	1.316468
HIST1H2AG	0.860205546	0.97398	0.72631	1.306104
FOXR2	0.860470285	1.026659	0.765629	1.376685
ZACN	0.865836879	0.975021	0.727053	1.30756
SEZ6	0.866727794	0.974854	0.724039	1.312554
DGKK	0.869459144	1.025007	0.763485	1.37611
UCN3	0.872021388	1.024651	0.761905	1.378006
SLCO1B1	0.873674691	1.024399	0.761046	1.378883
TSPY2	0.87378669	1.024055	0.763749	1.37308
ATP12A	0.873899041	0.97632	0.726208	1.312573
HIST1H3G	0.874238978	0.976493	0.727349	1.310978
TAF7L	0.875838079	0.976851	0.728171	1.310458
CALB2	0.876796197	1.023561	0.762522	1.373963
GC	0.877740545	0.977157	0.727956	1.311668
GALR3	0.878010848	1.023279	0.762744	1.372807
PGA5	0.878429178	1.023189	0.762754	1.372548
CWH43	0.883690221	1.022091	0.762698	1.369704
PRB4	0.88476415	1.021958	0.761846	1.370879

POU5F1B	0.886099618	1.022607	0.753121	1.388521
VSTM2A	0.887630623	1.021355	0.761883	1.369195
NPY	0.888444631	1.021182	0.761922	1.368659
HFE2	0.888783195	1.021396	0.759165	1.374206
TUBA4B	0.889703529	0.979415	0.729958	1.314121
ADGRG7	0.892169146	0.979912	0.730742	1.314043
CRCT1	0.894837648	1.019947	0.761012	1.366987
PRSS38	0.895775135	0.980542	0.730783	1.315662
PDPN	0.898043877	1.019498	0.758759	1.369837
SLC26A4	0.898450151	0.981051	0.731299	1.316099
NEUROD4	0.898529522	1.019239	0.760459	1.36608
CRISP1	0.901060704	1.018756	0.760046	1.365527
SLC17A2	0.902337004	1.018549	0.759439	1.366063
CALB1	0.904772459	0.98203	0.729637	1.321731
RET	0.90497498	0.982155	0.730795	1.319973
ACSM2B	0.905070081	1.018259	0.756332	1.370894
COX8C	0.910000334	1.017109	0.75792	1.364933
LGI1	0.912907033	0.983672	0.732369	1.321207
CALY	0.913960744	1.016358	0.757204	1.364208
ANXA8L1	0.91557778	0.984008	0.730377	1.325714
CDHR4	0.916730087	0.984495	0.734505	1.31957
AC020914.1	0.919328141	0.984984	0.734967	1.32005
ETNPPL	0.923637093	1.014489	0.755974	1.361406
SERPINB2	0.925199188	1.014142	0.756456	1.359607
OR4A16	0.927035533	0.986407	0.735946	1.322107
NXF3	0.928452584	0.986588	0.734739	1.324765
C22orf15	0.929164984	0.98678	0.735853	1.323274
KCTD4	0.931112698	1.012999	0.755858	1.357618
CT47B1	0.936547961	0.988145	0.73673	1.325358
TRPC5	0.936769192	1.012048	0.752831	1.360521
GALNTL5	0.937070452	1.011898	0.754427	1.357239
MMP27	0.938372439	0.988413	0.735575	1.328159
KRT33A	0.940374378	1.011247	0.754365	1.355605
PSG7	0.942388001	1.010871	0.753956	1.355332
NKX6-3	0.945201156	1.010532	0.749561	1.362363
MUC6	0.94655064	1.010167	0.75155	1.357776
SPRR2B	0.947654644	1.009885	0.752912	1.354563
ITLN1	0.947929298	0.990053	0.733432	1.336462
SERPINA11	0.948355181	1.009765	0.75251	1.354967
KCNJ13	0.948682445	0.990434	0.739095	1.327243
REG1B	0.948724984	1.009659	0.75324	1.353369
ANXA8	0.950206023	1.009377	0.753064	1.352929
MCHR2	0.950448577	1.00944	0.750561	1.357609
CRYGD	0.952700726	0.991145	0.738747	1.329775

ADAD2	0.955557262	0.991687	0.73938	1.33009
OBP2A	0.956325294	1.008233	0.751823	1.352093
A4GNT	0.9581905	1.008016	0.747872	1.358652
HIST2H3C	0.958384437	0.992234	0.740354	1.329809
RHOXF2B	0.959154816	1.007712	0.751007	1.352165
STMN4	0.960251764	1.007534	0.750011	1.353479
PTF1A	0.963426363	1.006877	0.751195	1.349586
NLRP13	0.965406089	0.993521	0.740624	1.332772
CALN1	0.969869958	0.994359	0.741409	1.333609
FAM19A4	0.973538403	1.005011	0.748017	1.350298
XAGE5	0.973828695	0.995108	0.742383	1.333866
PRB3	0.978937195	1.003976	0.747801	1.347909
VAT1L	0.981782787	0.996592	0.743475	1.335883
SSX5	0.982232635	1.003352	0.747398	1.346959
PNMA6F	0.982898795	1.003206	0.748623	1.344365
MMP26	0.983188728	0.996854	0.743612	1.33634
TFAP2B	0.986036309	0.997388	0.744161	1.336785
SCGB1A1	0.986256709	0.997425	0.743812	1.33751
SPATA16	0.988718878	1.002125	0.746658	1.345
HIST1H2AH	0.990699405	1.001743	0.747469	1.342516
OTOR	0.99158366	1.001588	0.745816	1.345076
FSHB	0.992523986	1.001402	0.746985	1.342471
CD177	0.994167339	1.001094	0.746745	1.342077
PNLIP	0.995361653	1.00087	0.746553	1.341821
PADI3	0.995584665	0.999172	0.74515	1.33979
STATH	0.995666651	1.000818	0.745009	1.344463
SPINK4	0.997713428	1.000429	0.745889	1.341834
ZP2	0.999488917	1.000096	0.745769	1.341156

Table S9. GSEA results between high-risk and low-risk phenotypes by using C5 reference gene set.

NAME	SIZE	ES	NES	NOM p-val	FDR q-val
HP_OSTEOLYSIS_INVOLVING_BONES_OF_THE_UPPER_LIMBS	21	0.797592	2.304966	<0.01	0.009865
GOBP_EPHRIN_RECEPTOR_SIGNALING_PATHWAY	86	0.607966	2.310538	<0.01	0.015857
GOCC_CELL_SUBSTRATE_JUNCTION	422	0.499206	2.138745	<0.01	0.044449
HP_DERMAL_ATROPHY	79	0.565607	2.171285	<0.01	0.048037
GOBP_MORPHOGENESIS_OF_AN_EPITHELIAL_SHEET	55	0.578989	2.062358	<0.01	0.048905
GOBP_SUBSTRATE_ADHESION_DEPENDENT_CELL_SPREADING	108	0.521139	2.070878	<0.01	0.049163
HP_ATROPHIC_SCARS	30	0.794126	2.140355	<0.01	0.049184
GOBP_CELL_ADHESION_MEDIATED_BY_INTEGRIN	69	0.60309	2.124982	<0.01	0.049323
HP_FACIAL_EDEMA	67	0.545919	2.066222	<0.01	0.050309
GOBP_ENDODERMAL_CELL_DIFFERENTIATION	43	0.685738	2.186801	<0.01	0.050344
HP_HYPEREXTENSIBLE_SKIN	61	0.6161	2.06237	<0.01	0.051031
HP_LONG_NOSE	31	0.624978	2.058282	0.001912	0.05137
GOMF_COLLAGEN_BINDING	67	0.652479	2.071169	0.001938	0.051448

HP_FRAGILE_SKIN	30	0.762095	2.116067	<0.01	0.051597
GOBP_SUBSTRATE_DEPENDENT_CELL_MIGRATION	23	0.702237	2.145379	<0.01	0.052547
GOBP_ENDODERM_FORMATION	52	0.636654	2.109583	0.002012	0.053167
HP_ABNORMALLY_LAX_OR_HYPEREXTENSIBLE_SKIN	137	0.501047	2.072441	<0.01	0.053281
HP_ABNORMAL_CEREBRAL_ARTERY_MORPHOLOGY	59	0.608914	2.048977	0.006085	0.053872
HP_ABNORMAL_CAROTID_ARTERY_MORPHOLOGY	65	0.599919	2.051123	<0.01	0.054561
GOBP_POSITIVE_REGULATION_OF_LAMELLIPODIUM_ORGANIZATION	36	0.606853	2.044882	<0.01	0.054941
GOBP_FC_RECEPTOR_MEDIATED_STIMULATORY_SIGNALING_PATHWAY	84	0.566622	2.04265	<0.01	0.055365
GOMF_INTEGRIN_BINDING	135	0.560654	2.073143	<0.01	0.055502
GOBP_VASCULAR_ENDOTHELIAL_GROWTH_FACTOR_RECEPTOR_SIGNALING_PATHWAY	90	0.567689	2.150018	<0.01	0.055748
GOBP_EPIBOLY	32	0.637245	2.076809	0.002075	0.056108
GOBP_REGULATION_OF_PROTEIN_AUTOPHOSPHORYLATION	47	0.581525	2.078944	<0.01	0.056937
HP_ECHOLALIA	36	0.60151	2.083438	0.001953	0.057298
GOBP_FORMATION_OF_PRIMARY_GERM_LAYER	108	0.542869	2.092545	<0.01	0.058525
GOBP_RESPONSE_TO_AMYLOID_BETA	44	0.615868	2.08647	<0.01	0.058638

HP_OSTEOLYSIS	74	0.548396	2.095536	<0.01	0.060534
GOBP_CORTICAL_CYTOSKELETON_ORGANIZATION	58	0.524256	2.034993	<0.01	0.061343
GOCC_LAMELLIPODIUM_MEMBRANE	22	0.706211	2.032524	<0.01	0.061555
GOBP_MEMBRANE_PROTEIN_ECTODOMAIN_PROTEOLYSIS	42	0.563872	2.030455	<0.01	0.061859
HP_ABSCESS	48	0.590821	2.027533	<0.01	0.062826
GOBP_POSITIVE_REGULATION_OF_EPITHELIAL_TO_MESENCHYMAL_TRANSITION	48	0.596747	2.018913	0.006303	0.065647
GOBP_REGULATION_OF_PROTEIN_LOCALIZATION_TO_CELL_PERIPHERY	117	0.460867	2.009375	0.002	0.065963
GOBP_CELLULAR_RESPONSE_TO_AMYLOID_BETA	35	0.626839	2.002854	<0.01	0.066209
GOBP_NEGATIVE_REGULATION_OF_REGULATED_SECRETORY_PATHWAY	21	0.695301	2.016352	0.002146	0.066389
GOMF_EXTRACELLULAR_MATRIX_BINDING	53	0.606353	2.004064	0.003876	0.066579
GOBP_EXTERNAL_ENCAPSULATING_STRUCTURE_ORGANIZATION	386	0.524044	2.005961	<0.01	0.06683
GOMF_CADHERIN_BINDING	313	0.491454	2.010294	0.004	0.066848
GOBP_POSITIVE_REGULATION_OF_CELL_SUBSTRATE_ADHESION	118	0.515776	2.012053	<0.01	0.066856
GOBP_POSITIVE_REGULATION_OF_PROTEIN_AUTOPHOSPHORYLATION	27	0.620442	2.02195	<0.01	0.067119
GOBP_REGULATION_OF_EXTRINSIC_APOPTOTIC_SIGNALING_PATHWAY	148	0.449495	2.019104	<0.01	0.067257

GOBP_CELLULAR_RESPONSE_TO_MECHANICAL_STIMULUS	73	0.531424	2.007054	<0.01	0.067409
HP_PROPTOSIS	229	0.472341	1.9998	<0.01	0.067787
GOCC_PODOSOME	28	0.674936	2.012887	<0.01	0.067959
GOBP_ENTRY_INTO_HOST	151	0.470215	1.976223	0.00211	0.068712
GOBP_CELL_SUBSTRATE_JUNCTION_ORGANIZATION	106	0.536488	1.994275	<0.01	0.068744
GOBP_RESPONSE_TO_X_RAY	31	0.619331	1.978485	<0.01	0.068989
HP_SCALING_SKIN	30	0.616812	1.989135	<0.01	0.069317
GOCC_LAMELLIPODIUM	192	0.465741	1.982015	0.001984	0.069438
HP_PREMATURE_LOSS_OF_TEETH	46	0.551056	1.976654	<0.01	0.069518
GOBP_BASEMENT_MEMBRANE_ORGANIZATION	30	0.639865	1.989809	0.00202	0.070009
HP_REDUNDANT_SKIN	65	0.522754	1.984107	<0.01	0.070044
GOBP_RESPONSE_TO_INTERLEUKIN_12	49	0.582894	1.994395	0.001923	0.07008
HP_ABNORMAL_ARTERIAL_PHYSIOLOGY	125	0.490273	1.978521	0.002037	0.070132
GOBP_REGULATION_OF_MONOOXYGENASE_ACTIVITY	57	0.500964	1.979361	<0.01	0.070433
HP_ABNORMAL_ELASTICITY_OF_SKIN	181	0.456808	1.986688	<0.01	0.070492

HP_DILATATION_OF_THE_CEREBRAL_ARTERY	38	0.669853	1.982137	0.005792	0.070595
GOBP_REGULATION_OF_PROTEIN_LOCALIZATION_TO_PLASMA_MEMBRANE	97	0.476958	1.990473	0.004	0.070605
HP_SUBCUTANEOUS_NODULE	84	0.491951	1.984765	<0.01	0.070987
GOBP_POSITIVE_REGULATION_OF_LAMELLIPODIUM_ASSEMBLY	28	0.63584	1.994452	<0.01	0.071529
HP_CORNEAL_SCARRING	15	0.68347	1.972209	0.002083	0.071851
GOBP_GASTRULATION	167	0.460479	1.966655	<0.01	0.073343
GOBP_COLLAGEN_FIBRIL_ORGANIZATION	52	0.703198	1.967013	0.003883	0.074134
GOBP_ENDODERM_DEVELOPMENT	75	0.537	1.96748	0.001984	0.074883
GOBP_REGULATION_OF_CELL_SUBSTRATE_ADHESION	207	0.479535	1.959856	<0.01	0.077984
GOBP_MOVEMENT_IN_HOST_ENVIRONMENT	173	0.453672	1.956637	0.002119	0.07964
GOBP_REGULATION_OF_EXTRINSIC_APOPTOTIC_SIGNALING_PATHWAY_VIA_DEATH_DOMAIN_RECEPTORS	55	0.509163	1.953775	<0.01	0.08164
GOBP_POSITIVE_REGULATION_OF_EXTRINSIC_APOPTOTIC_SIGNALING_PATHWAY	46	0.55866	1.951534	<0.01	0.082866
GOMF_LAMININ_BINDING	28	0.624173	1.950231	0.00207	0.082996
GOBP_FC_RECEPTOR_SIGNALING_PATHWAY	176	0.484623	1.947019	0.002	0.085337
GOMF_CELL_ADHESION_MEDIATOR_ACTIVITY	58	0.524459	1.9455	<0.01	0.086034

GOBP_POSITIVE_REGULATION_OF_NEURON_DEATH	89	0.46956	1.928355	0.001953	0.093814
HP_JUVENILE_ASEPTIC_NECROSIS	29	0.599804	1.933971	0.004024	0.094002
HP_ALOPECIA_OF_SCALP	25	0.643781	1.928854	<0.01	0.094397
GOBP_POSITIVE_REGULATION_OF_VASCULATURE_DEVELOPMENT	146	0.476028	1.930748	0.001992	0.094627
HP_AVASCULAR_NECROSIS	70	0.488205	1.920182	<0.01	0.09467
HP_ABNORMAL_MITRAL_VALVE_MORPHOLOGY	111	0.500678	1.934485	0.002033	0.094754
HP_PREMATURE_LOSS_OF_PRIMARY_TEETH	21	0.621149	1.920904	<0.01	0.094949
HP_PREMATURELY_AGED_APPEARANCE	121	0.465588	1.931472	0.002033	0.095094
GOCC_FILOPODIUM_MEMBRANE	18	0.676496	1.929037	<0.01	0.095376
GOBP_BIOLOGICAL_PROCESS_INVOLVED_IN_INTERACTION_WITH_HOST	215	0.423709	1.934917	<0.01	0.095396
GOBP_REGULATION_OF_LAMELLIPODIUM_ASSEMBLY	38	0.570839	1.917312	<0.01	0.095682
GOBP_MYD88_INDEPENDENT_TOLL_LIKE_RECEPTOR_SIGNALING_PATHWAY	34	0.592619	1.921021	0.002033	0.095866
GOBP_POSITIVE_REGULATION_OF_FIBROBLAST_PROLIFERATION	45	0.543146	1.912481	0.004008	0.095964
GOBP_PORE_COMPLEX_ASSEMBLY	20	0.669433	1.935481	0.002096	0.095965
GOCC_COSTAMERE	18	0.678084	1.922091	0.001996	0.096033

GOBP_ESTABLISHMENT_OR_MAINTENANCE_OF_CELL_POLARITY	210	0.428374	1.925278	<0.01	0.096251
GOMF_PHOSPHOPROTEIN_BINDING	87	0.470563	1.913228	0.001996	0.096255
GOBP_HOMOTYPIC_CELL_CELL_ADHESION	85	0.487591	1.917651	<0.01	0.096273
HP_MITRAL_VALVE_PROLAPSE	88	0.525416	1.913821	0.006098	0.096657
GOBP_ENTRY_OF_BACTERIUM_INTO_HOST_CELL	15	0.736227	1.92417	<0.01	0.096792
GOBP_WOUND_HEALING	487	0.426551	1.922346	<0.01	0.096989
GOBP_REGULATION_OF_EPITHELIAL_TO_MESENCHYMAL_TRANSITION	92	0.475669	1.914265	0.003968	0.097137
GOMF_PROTEASE_BINDING	128	0.466126	1.922995	<0.01	0.097405
GOBP_REGULATION_OF_PROTEIN_LOCALIZATION_TO_MEMBRANE	188	0.419913	1.914398	0.001996	0.097959
GOBP_ASTROCYTE_ACTIVATION	22	0.643214	1.907111	0.004032	0.098823
GOBP_ANGIOGENESIS_INVOLVED_IN_WOUND_HEALING	24	0.631684	1.904869	0.003937	0.099154
HP_ANKYLOSIS	20	0.634184	1.904083	0.002037	0.099184
GOBP_FIBROBLAST_MIGRATION	41	0.524657	1.907143	0.001992	0.099792
GOMF_EPHRIN_RECEPTOR_BINDING	27	0.590646	1.905086	<0.01	0.100012
HP_ABNORMALITY_OF_BLADDER_MORPHOLOGY	55	0.539132	1.902209	0.008163	0.100184

GOBP_REGULATION_OF_FIBROBLAST_MIGRATION	33	0.553478	1.907436	0.005964	0.100406
GOBP_TYPE_I_INTERFERON_PRODUCTION	123	0.474662	1.89998	0.002049	0.101747
GOBP_REGULATION_OF_LAMELLIPODIUM_ORGANIZATION	50	0.53235	1.898243	0.003984	0.10287
GOBP_CORTICAL_ACTIN_CYTOSKELETON_ORGANIZATION	38	0.549198	1.89607	0.004132	0.1034
HP_BOWING_OF_THE_LEGS	179	0.43021	1.896519	0.001996	0.103852
GOBP_CARDIAC_EPITHELIAL_TO_MESENCHYMAL_TRANSITION	30	0.601002	1.893902	0.001869	0.104249
HP_DELAYED_CRANIAL_SUTURE_CLOSURE	61	0.503799	1.894441	0.002016	0.104482
GOMF_G_PROTEIN_BETA_GAMMA_SUBUNIT_COMPLEX_BINDING	18	0.633176	1.892666	<0.01	0.10451
GOMF_FIBRONECTIN_BINDING	26	0.671974	1.891208	0.00823	0.105344
GOBP_POSITIVE_REGULATION_OF_T_CELL_MIGRATION	29	0.620753	1.888641	0.002012	0.106963
HP_APLASIA_HYPOPLASIA_OF_THE_SKIN	163	0.426967	1.889236	0.001992	0.10708
GOBP_CELL_SUBSTRATE_ADHESION	345	0.446854	1.88633	<0.01	0.108579
HP_HALLUX_VALGUS	55	0.50306	1.883238	0.005837	0.109204
HP_ABNORMALITY_OF_SUBCUTANEOUS_FAT_TISSUE	44	0.529999	1.883746	<0.01	0.109698
GOBP_PHAGOCYTOSIS	265	0.471366	1.884416	0.006	0.109812

GOBP_REGULATION_OF_VASCULATURE_DEVELOPMENT	261	0.444271	1.881612	<0.01	0.110295
HP_MUTISM	52	0.490887	1.87989	0.00198	0.110618
HP_ARTERIOVENOUS_MALFORMATION	53	0.556867	1.880291	0.006122	0.110943
GOBP_MEMBRANE_PROTEIN_PROTEOLYSIS	60	0.483947	1.879003	0.003922	0.111046
GOBP_CELLULAR_RESPONSE_TO_ABIOTIC_STIMULUS	313	0.381783	1.877612	<0.01	0.111736
GOBP_REGULATION_OF_LEUKOCYTE_ADHESION_TO_VASCULAR_ENDOTHELIAL_CELL	27	0.608145	1.876778	0.002045	0.111866
GOBP_MAINTENANCE_OF_PROTEIN_LOCATION	91	0.442527	1.87519	<0.01	0.112056
GOBP_NEGATIVE_REGULATION_OF_EXOCYTOSIS	29	0.581978	1.873525	0.006012	0.112195
GOBP_PLACENTA_DEVELOPMENT	131	0.434703	1.875741	<0.01	0.112296
GOCC_ACTIN_FILAMENT_BUNDLE	67	0.554814	1.873752	0.008097	0.112799
GOBP_ASTROCYTE_DEVELOPMENT	39	0.55896	1.87151	0.005976	0.113617
GOBP_LEUKOCYTE_ADHESION_TO_VASCULAR_ENDOTHELIAL_CELL	44	0.570276	1.86542	0.004115	0.113829
HP_BLADDER_DIVERTICULUM	22	0.68742	1.866441	0.014199	0.114477
HP_PALPEBRAL_EDEMA	35	0.557255	1.865549	0.001961	0.114549
GOBP_RESPONSE_TO_PLATELET_DERIVED_GROWTH_FACTOR	17	0.652379	1.869502	<0.01	0.115055

HP_LIPOATROPHY	69	0.492644	1.866609	0.004246	0.115153
GOCC_BASEMENT_MEMBRANE	92	0.531439	1.867103	<0.01	0.115474
GOBP_EXTRINSIC_APOPTOTIC_SIGNALING_PATHWAY	210	0.389048	1.851991	0.004115	0.116119
GOBP_REGULATION_OF_LYMPHOCYTE_CHEMOTAXIS	25	0.646766	1.86732	0.005814	0.116152
GOBP_FIBROBLAST_PROLIFERATION	78	0.45198	1.853328	0.002028	0.116166
GOBP_POSITIVE_REGULATION_OF_CELL_SUBSTRATE_JUNCTION_ORGANIZATION	30	0.593224	1.867821	0.004008	0.116481
GOBP_POSITIVE_REGULATION_OF_EPITHELIAL_CELL_MIGRATION	143	0.443894	1.852322	0.001984	0.116553
GOCC_FILOPODIUM	98	0.461357	1.851054	<0.01	0.116639
HP_CUTIS_LAXA	95	0.452092	1.849095	0.004228	0.11675
GOBP_LABYRINTHINE_LAYER_MORPHOGENESIS	19	0.627458	1.853375	0.004124	0.116886
GOCC_SITE_OF_DOUBLE_STRAND_BREAK	63	0.532995	1.856453	0.004065	0.116892
HP_ANKLE_FLEXION_CONTRACTURE	41	0.525409	1.853944	0.004024	0.117025
GOBP_VASCULOGENESIS	76	0.515977	1.842614	0.003984	0.117025
GOCC_RUFFLE	173	0.43964	1.85011	0.001976	0.117099
HP_OSTEOARTHRITIS	52	0.531923	1.854434	0.009881	0.117228

GOBP_REGULATION_OF_CELL_ADHESION_MEDIATED_BY_INTEGRIN	47	0.527811	1.855595	0.009728	0.117233
GOBP_INTEGRIN_MEDIATED_SIGNALING_PATHWAY	103	0.499842	1.856817	0.00409	0.117257
GOBP_MODULATION_OF_PROCESS_OF_OTHER_ORGANISM_INVOLVED_IN_SYMBIOTIC_INTERACTION	94	0.435893	1.848196	<0.01	0.117279
GOBP_REGULATION_OF_T_CELL_MIGRATION	42	0.558401	1.841745	0.003883	0.117289
GOBP_POSITIVE_REGULATION_OF_CELL_ADHESION	414	0.44647	1.8492	0.004115	0.117342
GOBP_MUSCLE_CELL_MIGRATION	76	0.487551	1.842878	0.001961	0.117428
HP_POOR_WOUND_HEALING	22	0.689287	1.854799	0.013972	0.117567
GOBP_POSITIVE_REGULATION_OF_RESPONSE_TO_CYTOKINE_STIMULUS	56	0.519359	1.86101	0.002058	0.117766
GOBP_POSITIVE_REGULATION_OF_BLOOD_VESSEL_ENDOTHELIAL_CELL_MIGRATION	49	0.501023	1.843249	<0.01	0.117806
GOBP_REGULATION_OF_LYMPHOCYTE_MIGRATION	62	0.541053	1.856998	0.003891	0.117893
GOBP_NEGATIVE_REGULATION_OF_TRANSFORMING_GROWTH_FACTOR_BETA_RECEPTOR_SIGNALING_PATHWAY	79	0.473112	1.857353	0.004065	0.118197
HP_FACIAL_ASYMMETRY	122	0.495565	1.86123	0.004141	0.118328
GOBP_POSITIVE_REGULATION_OF_TUMOR_NECROSIS_FACTOR_SUPERFAMILY_CYTOKINE_PRODUCTION	86	0.500365	1.843362	0.004032	0.118341
GOBP_EPIDERMAL_GROWTH_FACTOR_RECEPTOR_SIGNALING_PATHWAY	119	0.430732	1.844403	0.002058	0.118434
GOBP_NEGATIVE_REGULATION_OF_EXTRINSIC_APOPTOTIC_SIGNALING_PATHWAY	99	0.431406	1.859938	0.002028	0.118492

GOBP_GLIAL_CELL_MIGRATION	47	0.515935	1.845935	0.007767	0.118702
GOCC_FICOLIN_1_RICH_GRANULE	182	0.473592	1.843509	<0.01	0.118864
GOCC_MEMBRANE_MICRODOMAIN	316	0.418452	1.857481	0.002024	0.118866
GOMF_EXOGENOUS_PROTEIN_BINDING	77	0.484938	1.844589	0.002016	0.118876
GOCC_GTPASE_COMPLEX	32	0.532819	1.858167	0.006342	0.118902
GOBP_REGULATION_OF_ERBB_SIGNALING_PATHWAY	91	0.439803	1.846345	0.00404	0.119006
GOBP_WOUND_HEALING_SPREADING_OF_EPIDERMAL_CELLS	18	0.695707	1.858557	0.00625	0.119188
GOBP_CELLULAR_RESPONSE_TO_HEAT	114	0.490643	1.84465	0.001923	0.119489
HP_SHALLOW_ORBITS	24	0.559202	1.837556	0.001996	0.12073
GOMF_PROTEOGLYCAN_BINDING	36	0.608425	1.838057	0.002053	0.120976
HP_LIPODYSTROPHY	105	0.436498	1.833669	<0.01	0.123729
GOBP_REGULATION_OF_RESPONSE_TO_CYTOKINE_STIMULUS	166	0.430695	1.834332	<0.01	0.123748
GOBP_POSITIVE_REGULATION_OF_PHOSPHOPROTEIN_PHOSPHATASE_ACTIVITY	21	0.619495	1.831706	<0.01	0.124727
GOBP_MUCOPOLYSACCHARIDE_METABOLIC_PROCESS	112	0.464745	1.83103	0.004065	0.124877
GOBP_POST_ANAL_TAIL_MORPHOGENESIS	15	0.645648	1.830389	0.003824	0.124993

GOBP_POSITIVE_REGULATION_OF_PROTEIN_LOCALIZATION_TO_CELL_PERIPHERY	66	0.434825	1.802532	0.004115	0.125281
GOBP_REGULATION_OF_RECEPTOR_BINDING	23	0.576266	1.801632	0.008163	0.125296
GOCC_FICOLIN_1_RICH_GRANULE_LUMEN	124	0.499226	1.831707	0.00198	0.125436
HP_TISSUE_ISCHEMIA	96	0.453546	1.802762	0.008316	0.125545
GOBP_SEMI_LUNAR_VALVE_DEVELOPMENT	41	0.575065	1.799927	0.002053	0.125599
GOBP_TISSUE_MIGRATION	292	0.41023	1.801661	0.005917	0.125807
GOBP_NEGATIVE_REGULATION_OF_TYPE_I_INTERFERON_PRODUCTION	44	0.531082	1.803001	0.015873	0.125837
GOBP_REGULATION_OF_MONONUCLEAR_CELL_MIGRATION	109	0.496399	1.800568	0.007984	0.125951
GOBP_REGULATION_OF_CELL_MATRIX_ADHESION	118	0.456875	1.80002	0.001996	0.126026
GOBP_POSITIVE_REGULATION_OF_EXTRACELLULAR_MATRIX_ORGANIZATION	23	0.61491	1.803584	0.010142	0.126234
GOBP_POSITIVE_REGULATION_OF_CELL_MATRIX_ADHESION	53	0.500737	1.803016	0.002037	0.126355
GOBP_POSITIVE_REGULATION_OF_MYELOID_LEUKOCYTE_CYTOKINE_PRODUCTION_INVOLVED_IN_IMMUNE_RESPONSE	16	0.652519	1.819266	0.005917	0.126519
GOBP_POSITIVE_REGULATION_OF_ENDOTHELIAL_CELL_MIGRATION	101	0.452676	1.826697	0.003937	0.126535
HP_PROSTATE_NEOPLASM	30	0.56414	1.81803	0.006012	0.126571
GOBP_MODULATION_BY_HOST_OF_SYMBIONT_PROCESS	60	0.438173	1.804132	0.009398	0.12666

GOBP_MUSCLE_CELL_PROLIFERATION	172	0.43888	1.818529	0.004098	0.126685
GOBP_NEGATIVE_REGULATION_OF_BIOMINERALIZATION	26	0.580774	1.803676	0.009785	0.126692
GOMF_CELL_CELL_ADHESION_MEDIATOR_ACTIVITY	49	0.499692	1.804391	0.001961	0.126959
GOBP_INTERFERON_BETA_PRODUCTION	50	0.51991	1.826999	0.00996	0.126962
GOBP_AMINOGLYCAN_BIOSYNTHETIC_PROCESS	114	0.468457	1.819397	0.001996	0.127021
GOBP_LAMELLIPODIUM_ASSEMBLY	69	0.465527	1.813918	0.005894	0.127177
GOBP_REGULATION_OF_PROTEIN_TYROSINE_KINASE_ACTIVITY	93	0.413992	1.807306	<0.01	0.127344
GOBP_RESPONSE_TO_VITAMIN_D	31	0.531699	1.807744	0.003899	0.12744
GOBP_REGULATION_OF_DEFENSE_RESPONSE_TO_VIRUS	64	0.480163	1.804463	0.004065	0.127447
GOBP_NEGATIVE_REGULATION_OF_DEFENSE_RESPONSE_TO_VIRUS	22	0.570522	1.824785	0.002066	0.127475
HP_THORACOLUMBAR_SCOLIOSIS	26	0.60631	1.806661	0.002008	0.127542
GOBP_POSITIVE_REGULATION_OF_CYTOSKELETON_ORGANIZATION	210	0.390478	1.819486	0.003883	0.127552
GOCC_COLLAGEN_CONTAINING_EXTRACELLULAR_MATRIX	405	0.469787	1.827035	0.011858	0.127579
GOBP_CELLULAR_RESPONSE_TO_IONIZING_RADIATION	63	0.481328	1.813918	0.009901	0.127797
HP_SOFT_SKIN	34	0.596626	1.804629	0.018939	0.127808

GOBP_REGULATION_OF_SUBSTRATE_ADHESION_DEPENDENT_CELL_SPREADING	57	0.493634	1.819751	0.003937	0.127891
GOBP_REGULATION_OF_INNATE_IMMUNE_RESPONSE	299	0.443266	1.805881	0.007828	0.127907
GOBP_POSITIVE_REGULATION_OF_PEPTIDYL_THREONINE_PHOSPHORYLATION	30	0.550565	1.804965	<0.01	0.127967
GOBP_RESPONSE_TO_GAMMA_RADIATION	51	0.500378	1.807789	0.005848	0.127971
HP_RENAL_DUPLICATION	24	0.552761	1.796353	0.01002	0.128018
GOBP_NEGATIVE_REGULATION_OF_EPITHELIAL_CELL_PROLIFERATION	119	0.409429	1.797643	<0.01	0.128022
HP_ABNORMALITY_OF_HAND_JOINT_MOBILITY	29	0.594666	1.827236	0.009862	0.128068
GOBP_REGULATION_OF_MEMBRANE_PROTEIN_ECTODOMAIN_PROTEOLYSIS	23	0.590292	1.824855	0.002123	0.128085
HP_AORTIC_ANEURYSM	136	0.443153	1.794933	0.00396	0.128219
GOBP_CARDIAC_MUSCLE_CELL_PROLIFERATION	44	0.558299	1.795697	0.006036	0.128262
GOBP_NEGATIVE_REGULATION_OF_ERBB_SIGNALING_PATHWAY	51	0.473967	1.805163	0.002049	0.128266
GOCC_ACTIN_CYTOSKELETON	480	0.390302	1.808383	0.004016	0.128272
HP_OCULOMOTOR_NERVE_PALSY	25	0.585163	1.795276	0.006329	0.128282
GOBP_CELLULAR_RESPONSE_TO_VASCULAR_ENDOTHELIAL_GROWTH_FACTOR_STIMULUS	59	0.51562	1.796559	0.006148	0.128315
HP_ABNORMAL_PROSTATE_MORPHOLOGY	38	0.516179	1.819932	0.01004	0.128327

HP_MICROGLOSSIA	16	0.637196	1.807953	0.007605	0.128334
HP_SOFT_TISSUE_SARCOMA	114	0.420669	1.813921	0.001965	0.128411
GOBP_PLATELET_DERIVED_GROWTH_FACTOR_RECEPTOR_SIGNALING_PATHWAY	54	0.508481	1.796726	0.00823	0.128558
GOBP_CELLULAR_RESPONSE_TO_VITAMIN	29	0.548438	1.821213	0.003899	0.128608
HP_ACROCYANOSIS	16	0.626125	1.814289	0.00202	0.128633
HP_LARGE_EARLOBE	20	0.606526	1.820651	0.005747	0.128654
GOBP_EPITHELIAL_TO_MESENCHYMAL_TRANSITION	143	0.425309	1.823342	0.007663	0.128746
HP_IRREGULAR_HYPERPIGMENTATION	135	0.422073	1.808444	<0.01	0.128806
GOBP_CELLULAR_RESPONSE_TO_ACID_CHEMICAL	64	0.462961	1.809311	0.006073	0.128865
GOBP_BASEMENT_MEMBRANE_ASSEMBLY	15	0.669303	1.81455	0.01227	0.128908
GOBP_EXTRACELLULAR_MATRIX_DISASSEMBLY	79	0.500125	1.820013	0.007968	0.12893
HP_ABNORMAL_HEART_VALVE_MORPHOLOGY	275	0.41171	1.809687	0.005941	0.128951
GOBP_AMEBOIDAL_TYPE_CELL_MIGRATION	396	0.400337	1.821479	<0.01	0.12905
GOMF_GROWTH_FACTOR_RECEPTOR_BINDING	138	0.421763	1.815449	<0.01	0.1291
HP_RECURRENT_BACTERIAL_SKIN_INFECTIONS	24	0.672189	1.814933	0.008368	0.129102

HP_PALMAR_HYPERHIDROSIS	17	0.71482	1.810426	0.003953	0.129165
HP_ABNORMAL_ATRIOVENTRICULAR_VALVE_MORPHOLOGY	130	0.452782	1.808597	0.003937	0.129172
GOBP_REGULATION_OF_PRESYNAPSE_ORGANIZATION	30	0.563233	1.809957	0.003883	0.129208
GOMF_NUCLEAR_IMPORT_SIGNAL_RECEPTOR_ACTIVITY	20	0.661325	1.821763	0.003906	0.129379
GOBP_POSITIVE_REGULATION_OF_LYMPHOCYTE_MIGRATION	36	0.593307	1.822102	0.006	0.129567
GOBP_ACTIN_POLYMERIZATION_OR_DEPOLYMERIZATION	202	0.396284	1.810537	0.001938	0.129665
GOBP_CELL_JUNCTION_DISASSEMBLY	20	0.666486	1.811419	0.01	0.129689
GOBP_SMOOTH_MUSCLE_CELL_MIGRATION	63	0.495349	1.793206	0.003953	0.129829
HP_PNEUMOTHORAX	40	0.55795	1.810574	0.018036	0.130257
GOBP_REGULATION_OF_DEFENSE_RESPONSE_TO_VIRUS_BY_VIRUS	29	0.572711	1.787284	0.011881	0.130495
GOBP_NEGATIVE_REGULATION_OF_TRANSMEMBRANE_RECEPTOR_PROTEIN_SERINE_THREONINE_KINASE_SIGNALING_PATHWAY	122	0.429038	1.789785	0.001984	0.130498
HP_ABNORMALITY_OF_THE_CALF	229	0.388245	1.768719	0.004008	0.130569
HP_CONVEX_NASAL_RIDGE	64	0.521404	1.789311	0.002075	0.130609
GOBP_POSITIVE_REGULATION_OF_MONOOXYGENASE_ACTIVITY	32	0.507766	1.76829	0.010183	0.130635
GOBP_SMOOTH_MUSCLE_CELL_PROLIFERATION	125	0.433001	1.767895	0.004065	0.130658

GOBP_OSSIFICATION	369	0.390133	1.78745	<0.01	0.130722
GOBP_EPITHELIAL_CELL_PROLIFERATION	370	0.380355	1.791693	<0.01	0.130748
HP_SKIN_NODULE	102	0.433187	1.790347	<0.01	0.130797
HP_ABNORMAL_ADIPOSE_TISSUE_MORPHOLOGY	189	0.387231	1.786658	<0.01	0.130826
GOBP_LAMELLIPODIUM_ORGANIZATION	85	0.446942	1.79076	0.003922	0.130831
HP_ABNORMALITY_OF_TIBIA_MORPHOLOGY	80	0.438019	1.791138	<0.01	0.130876
GOMF_ACTIN_BINDING	423	0.392924	1.79197	0.004024	0.130943
GOBP_CELLULAR_RESPONSE_TO_BIOTIC_STIMULUS	214	0.427934	1.768741	0.012097	0.130946
GOBP_NEGATIVE_REGULATION_OF_PROTEIN_LOCALIZATION_TO_CELL_PERIPHERY	23	0.570118	1.789839	0.002008	0.130951
GOBP_NUCLEOTIDE_BINDING_OLIGOMERIZATION_DOMAIN_CONTAINING_2_SIGNALING_PATHWAY	15	0.692005	1.78616	0.01004	0.130963
HP_TIBIAL_BOWING	30	0.535289	1.770716	0.010101	0.131069
GOBP_REGULATION_OF_T_CELL_CHEMOTAXIS	15	0.658841	1.787577	0.001931	0.131117
GOCC_EXTRINSIC_COMPONENT_OF_CYTOPLASMIC_SIDE_OF_PLASMA_MEMBRANE	97	0.412488	1.768894	0.002	0.131126
GOBP_CARDIAC_RIGHT_VENTRICLE_MORPHOGENESIS	19	0.620352	1.763908	0.008097	0.13125
GOBP_MAINTENANCE_OF_LOCATION	305	0.364313	1.776602	0.00202	0.131295

GOBP_TRANSFORMING_GROWTH_FACTOR_BETA_PRODUCTION	41	0.512983	1.788191	0.017822	0.131329
GOBP_REGULATION_OF_CELLULAR_RESPONSE_TO_TRANSFORMING_GROWTH_FACTOR_BETA_STIMULUS	120	0.434316	1.770854	0.005929	0.131347
GOMF_STRUCTURAL_CONSTITUENT_OF_CYTOSKELETON	95	0.448699	1.764563	0.001992	0.131364
HP_FEMORAL_BOWING	36	0.517583	1.770035	0.006303	0.131389
GOBP_REGULATION_OF_NITRIC_OXIDE_METABOLIC_PROCESS	54	0.482071	1.78774	0.004032	0.131408
GOBP_OVULATION	15	0.637094	1.769349	0.014141	0.131463
GOBP_POSITIVE_REGULATION_OF_LYMPHOCYTE_CHEMOTAXIS	19	0.635367	1.768947	0.007843	0.131491
GOBP_TRANSFORMING_GROWTH_FACTOR_BETA_RECEPTOR_SIGNALING_PATHWAY	188	0.416091	1.769675	0.003899	0.131514
GOBP_REGULATION_OF_EXTRACELLULAR_MATRIX_ORGANIZATION	45	0.549263	1.764007	0.022312	0.131588
HP_ABNORMALITY_OF_THE_ACETABULUM	68	0.465209	1.784341	0.00404	0.131635
GOCC_POSTSYNAPTIC_CYTOSOL	16	0.636005	1.764642	0.01145	0.131674
GOBP_POSITIVE_REGULATION_OF_SMOOTH_MUSCLE_CELL_MIGRATION	35	0.549145	1.77668	0.003883	0.131686
GOBP_RENAL_FILTRATION	22	0.60938	1.770855	0.006061	0.131783
GOBP_CHONDROCYTE_DEVELOPMENT	27	0.57946	1.764915	0.01227	0.131794
HP_ESOPHAGITIS	26	0.534134	1.774979	0.004057	0.131848

HP_INTRACRANIAL_HEMORRHAGE	125	0.415716	1.760379	0.00202	0.131864
HP_UNERUPTED_TOOTH	16	0.650786	1.777159	0.006085	0.131886
HP_GINGIVAL_OVERGROWTH	95	0.442333	1.766581	0.006036	0.131902
HP_AORTIC_ROOT_ANEURYSM	72	0.497964	1.76258	0.013672	0.131929
GOBP_POSITIVE_REGULATION_OF_LEUKOCYTE_ADHESION_TO_VASCULAR_ENDOTHELIAL_CELL	20	0.622576	1.784934	0.016563	0.131935
GOBP_POSITIVE_REGULATION_OF_WNT_SIGNALING_PATHWAY	173	0.403325	1.765139	0.001901	0.131935
GOBP_NEGATIVE_REGULATION_OF_NIK_NF_KAPPAB_SIGNALING	23	0.553123	1.761838	0.002037	0.131958
GOBP_CYTOPLASMIC_PATTERN_RECOGNITION_RECEPTOR_SIGNALING_PATHWAY	69	0.458974	1.765423	0.00211	0.131993
GOBP_CELL_MATRIX_ADHESION	220	0.43978	1.784459	0.006198	0.131997
GOMF_CYTOKINE_RECEPTOR_BINDING	233	0.416482	1.760884	0.008097	0.13204
GOBP_VASCULAR_WOUND_HEALING	16	0.642887	1.775201	0.01002	0.13204
HP_ABDOMINAL_AORTIC_ANEURYSM	18	0.673353	1.765792	0.016393	0.132041
GOBP_POSITIVE_REGULATION_OF_SIGNALING_RECEPTOR_ACTIVITY	42	0.496859	1.777731	0.004024	0.132051
GOBP_FC_EPSILON_RECEPTOR_SIGNALING_PATHWAY	110	0.454565	1.770975	0.012024	0.132059
GOBP_MODULATION_OF_PROCESS_OF_OTHER_ORGANISM	118	0.414205	1.760514	<0.01	0.132103

HP_GENU_VALGUM	118	0.432848	1.776718	0.00813	0.132119
GOBP_PATTERN_RECOGNITION_RECEPTOR_SIGNALING_PATHWAY	199	0.418573	1.761098	0.002041	0.132143
HP_ABNORMALITY_OF_THE_KNEE	310	0.382845	1.775471	0.003984	0.132148
GOBP_RESPONSE_TO_VIRUS	325	0.400111	1.762761	0.008048	0.132183
GOBP_POSITIVE_REGULATION_OF_PROTEIN_LOCALIZATION_TO_MEMBRANE	125	0.395367	1.777264	0.003937	0.132198
HP_ABNORMALITY_OF_THE_HALLUX	161	0.41074	1.76191	0.005882	0.132299
GOCC_REGION_OF_CYTOSOL	21	0.589001	1.773593	0.003984	0.1323
GOBP_POSITIVE_REGULATION_OF_TRANSCRIPTION_REGULATORY_REGION_DNA_BINDING	22	0.541172	1.774289	0.004032	0.132307
GOBP_POSITIVE_REGULATION_OF_CELL_DIVISION	77	0.447025	1.765931	0.004175	0.132318
GOBP_ERBB_SIGNALING_PATHWAY	140	0.404989	1.771818	0.004057	0.132326
GOBP_RESPONSE_TO_DSRNA	38	0.5006	1.771103	0.008214	0.13236
GOBP_RESPONSE_TO_TRANSFORMING_GROWTH_FACTOR_BETA	242	0.413356	1.779061	0.001938	0.132362
GOBP_POSITIVE_REGULATION_OF_REACTIVE_OXYGEN_SPECIES_METABOLIC_PROCESS	94	0.44491	1.76121	0.006148	0.132404
GOCC_ACTIN_FILAMENT	112	0.449465	1.779383	0.002053	0.132434
GOCC_CELL_LEADING_EDGE	405	0.382784	1.77778	0.001938	0.132473

GOBP_VIRAL_LIFE_CYCLE	337	0.374603	1.773805	0.002041	0.132505
GOMF_EXTRACELLULAR_MATRIX_STRUCTURAL_CONSTITUENT_CONFERRING_TENSILE_STRENGTH	41	0.654233	1.772014	0.023346	0.132531
GOBP_CELLULAR_RESPONSE_TO_EXTERNAL_STIMULUS	294	0.366274	1.781904	<0.01	0.132606
GOBP_KERATINOCYTE_MIGRATION	18	0.612629	1.771227	0.011811	0.132641
GOBP_ENDOTHELIAL_CELL_MIGRATION	206	0.417219	1.779979	0.005837	0.132667
HP_DEVIATION_OF_THE_HALLUX	81	0.45751	1.780338	0.008	0.132689
GOMF_METALLOENDOPEPTIDASE_ACTIVITY	104	0.443291	1.783065	0.004082	0.132734
HP_SLENDER_LONG_BONE	39	0.497433	1.777927	0.008247	0.132787
GOBP_TISSUE_REMODELING	160	0.442036	1.780939	0.004049	0.132803
GOCC_ACTOMYOSIN	68	0.520942	1.780598	0.006048	0.132838
GOBP_LEUKOCYTE_TETHERING_OR_ROLLING	30	0.589001	1.772097	0.010183	0.13285
GOBP_MACROPHAGE_DIFFERENTIATION	45	0.534906	1.779397	0.021368	0.132913
HP_ABNORMAL_AORTIC_VALVE_CUSP_MORPHOLOGY	83	0.473083	1.782074	0.013514	0.132956
GOBP_POSITIVE_REGULATION_OF_PROTEIN_CONTAINING_COMPLEX_ASSEMBLY	244	0.36926	1.778007	0.003984	0.133135
GOBP_BIOLOGICAL_PROCESS_INVOLVED_IN_INTERACTION_WITH_SYMBIONT	84	0.441177	1.781011	0.004073	0.133211

GOBP_RESPONSE_TO_VITAMIN	85	0.425579	1.772163	<0.01	0.133243
GOCC_PHAGOCYTIC_VESICLE	133	0.465971	1.782234	0.008147	0.133293
GOBP_POSITIVE_REGULATION_OF_FOCAL_ADHESION_ASSEMBLY	25	0.580819	1.772419	0.016	0.133401
GOBP_REGULATION_OF_VASCULAR_ASSOCIATED_SMOOTH_MUSCLE_CELL_PROLIFERATION	50	0.501606	1.757561	0.010309	0.133882
GOMF_GDP_DISSOCIATION_INHIBITOR_ACTIVITY	16	0.610447	1.757798	0.00813	0.134006
GOBP_REGULATION_OF_CELL_SUBSTRATE_JUNCTION_ORGANIZATION	69	0.490083	1.757912	0.007843	0.13422
GOBP_REGULATION_OF_RESPONSE_TO_BIOTIC_STIMULUS	394	0.413798	1.756086	0.00404	0.135181
HP_LYMPHEDEMA	60	0.456056	1.754118	0.004107	0.136731
GOBP_TOLL_LIKE_RECEPTOR_4_SIGNALING_PATHWAY	39	0.536484	1.754383	0.007968	0.136854
HP_SHOULDER_DISLOCATION	16	0.650957	1.750153	0.02	0.136891
GOMF_ACTIN_FILAMENT_BINDING	201	0.409063	1.753629	0.006024	0.136927
GOBP_REGULATION_OF_VASCULAR_ENDOTHELIAL_GROWTH_FACTOR_RECEPTOR_SIGNALING_PATHWAY	27	0.548458	1.751108	0.017647	0.136969
HP_KNEE_FLEXION_CONTRACTURE	70	0.439936	1.7517	0.006452	0.136973
GOBP_MESODERM_MORPHOGENESIS	64	0.464451	1.752299	0.002004	0.136988
HP_PATELLAR_DISLOCATION	48	0.499917	1.749097	0.015686	0.137073

GOCC_PROTEIN_COMPLEX_INVOLVED_IN_CELL_ADHESION	36	0.602451	1.749387	0.032	0.137139
GOCC_COLLAGEN_TRIMER	84	0.538388	1.751247	0.027668	0.137163
GOBP_LYMPH_NODE_DEVELOPMENT	17	0.614883	1.750267	0.008264	0.137185
GOMF_NUCLEAR_LOCALIZATION_SEQUENCE_BINDING	25	0.633704	1.749616	0.015968	0.137205
GOBP_STRIATED_MUSCLE_CELL_PROLIFERATION	57	0.50466	1.750541	0.006098	0.137266
GOBP_REGULATION_OF_REACTIVE_OXYGEN_SPECIES_METABOLIC_PROCESS	174	0.387954	1.751731	0.002024	0.137326
HP_HYDROURETER	65	0.489957	1.752345	0.00994	0.137356
GOBP_REGULATION_OF_CELL_SHAPE	146	0.412662	1.75256	0.003953	0.137442
GOBP_EPITHELIAL_CELL_DIFFERENTIATION_INVOLVED_IN_KIDNEY_DEVELOPMENT	47	0.512235	1.747917	0.011834	0.137627
GOBP_POSITIVE_REGULATION_OF_CYTOKINE_PRODUCTION_INVOLVED_IN_IMMUNE_RESPONSE	53	0.519283	1.752678	0.018072	0.137712
GOMF_CXCR_CHEMOKINE_RECEPTOR_BINDING	17	0.658902	1.74796	0.014493	0.137978
GOBP_INTEGRIN_ACTIVATION	25	0.598121	1.74595	0.01232	0.138484
GOBP_REGULATION_OF_EPITHELIAL_CELL_MIGRATION	222	0.404617	1.745499	0.00996	0.138637
HP_ABNORMALITY_OF_THE_PERIORBITAL_REGION	201	0.38344	1.745955	0.006122	0.138866
GOBP_REGULATION_OF_EXTRACELLULAR_MATRIX_DISASSEMBLY	16	0.63422	1.7462	0.02	0.138928

HP_ABNORMALITY_OF_THE_PHALANGES_OF_THE_HALLUX	37	0.519701	1.746295	0.010204	0.139212
HP_PERIAURICULAR_SKIN_PITS	44	0.482418	1.744671	0.014286	0.139324
GOBP_POSITIVE_REGULATION_OF_PROTEIN_POLYMERIZATION	127	0.391108	1.743939	0.00813	0.139733
HP_TRANSIENT_ISCHEMIC_ATTACK	54	0.496416	1.743399	0.018	0.140029
HP_DESCENDING_THORACIC_AORTA_ANEURYSM	16	0.697277	1.734744	0.018036	0.14006
GOMF_EXTRACELLULAR_MATRIX_STRUCTURAL_CONSTITUENT	164	0.527971	1.742923	0.021869	0.140188
GOMF_PROTEIN_PHOSPHORYLATED_AMINO_ACID_BINDING	56	0.474528	1.739034	0.011976	0.140309
HP_JOINT_SUBLUXATION	19	0.643115	1.73478	0.021696	0.140375
GOBP_T_CELL_MIGRATION	63	0.526017	1.742438	0.021912	0.140432
HP_URINARY_RETENTION	21	0.56981	1.737378	0.012097	0.140448
HP_ABNORMAL_MITRAL_VALVE_PHYSIOLOGY	130	0.388975	1.736519	0.009747	0.140471
GOBP_CELLULAR_RESPONSE_TO_CHEMICAL_STRESS	326	0.356625	1.737601	<0.01	0.140519
HP_UPPER_EXTREMITY_JOINT_DISLOCATION	87	0.481836	1.739231	0.014085	0.140526
GOCC_SITE_OF_DNA_DAMAGE	83	0.493568	1.741938	0.012097	0.140597
HP_ABNORMALITY_OF_THE_CARPAL_BONES	76	0.456673	1.739436	0.016032	0.140609

GOBP_POSITIVE_REGULATION_OF_VASCULAR_ASSOCIATED_SMOOTH_MUSCLE_CELL_PROLIFERATION	32	0.511758	1.740386	0.012685	0.140642
GOBP_REGULATION_OF_ACTIN_FILAMENT_ORGANIZATION	256	0.384798	1.734831	0.006	0.140686
HP_COXA_VARA	54	0.487753	1.733063	0.014	0.140689
HP_RECTAL_PROLAPSE	27	0.553279	1.741599	0.016563	0.140703
GOBP_REGULATION_OF_CARDIAC_MUSCLE_CELL_PROLIFERATION	36	0.559013	1.737756	0.010204	0.140704
HP_DYSTROPHIC_FINGERNAILS	31	0.525442	1.736606	0.01341	0.140716
GOBP_ASTROCYTE_DIFFERENTIATION	69	0.454359	1.735005	0.006276	0.14085
GOBP_BLOOD_VESSEL_REMODELING	40	0.502418	1.740551	0.004008	0.140853
GOBP_CENTRAL_NERVOUS_SYSTEM_PROJECTION_NEURON_AXONOGENESIS	26	0.546975	1.739511	0.017442	0.140912
GOBP_SYNAPTIC_MEMBRANE_ADHESION	25	0.557625	1.733168	0.016097	0.140915
GOBP_NUCLEOTIDE_BINDING_DOMAIN_LEUCINE_RICH_REPEAT_CONTAINING_RECEPTOR_SIGNALING_PATHWAY	40	0.514079	1.735228	0.014583	0.140924
GOBP_NECROPTOTIC_PROCESS	36	0.50915	1.736721	0.012605	0.140941
GOBP_RAS_PROTEIN_SIGNAL_TRANSDUCTION	332	0.369971	1.740788	0.001957	0.140943
HP_BOWING_OF_THE_ARM	24	0.552418	1.735837	0.018405	0.140975
GOBP_RESPONSE_TO_INTERLEUKIN_1	195	0.427756	1.73363	0.002012	0.140997

GOMF_GROWTH_FACTOR_BINDING	130	0.447025	1.737816	0.013699	0.141009
HP_NARROW_NOSE	18	0.628464	1.741021	0.005747	0.141023
GOBP_RECEPTOR_CATABOLIC_PROCESS	36	0.501725	1.732484	0.0125	0.141084
GOBP_ENDOTHELIAL_CELL_PROLIFERATION	140	0.415059	1.73327	0.003846	0.141156
GOBP_REGULATION_OF_CELL_SIZE	170	0.386043	1.735327	0.007752	0.141176
HP_JOINT_HYPERFLEXIBILITY	173	0.434485	1.737935	0.008247	0.141223
GOBP_POSITIVE_REGULATION_OF_SMOOTH_MUSCLE_CELL_PROLIFERATION	80	0.439595	1.739519	0.004115	0.141261
HP_PAPULE	76	0.453023	1.730695	0.012146	0.141465
GOBP_REGULATION_OF_CELL_AGING	46	0.489289	1.730835	0.003976	0.141658
HP_ABNORMAL_INTRAOCULAR_PRESSURE	27	0.541969	1.730836	0.01002	0.142014
HP_SUBCUTANEOUS_HEMORRHAGE	206	0.409953	1.73134	0.010309	0.14217
HP_PROMINENT_NOSE	73	0.46258	1.730839	0.008163	0.142368
GOBP_REGULATION_OF_ACTIN_FILAMENT_BASED_PROCESS	367	0.369338	1.729396	0.00396	0.14243
GOBP_CELLULAR_RESPONSE_TO_MOLECULE_OF_BACTERIAL_ORIGIN	191	0.434634	1.728775	0.01217	0.142476
GOCC_CELL_CELL_CONTACT_ZONE	68	0.431984	1.729601	0.01006	0.142504

HP_HYPEREXTENSIBILITY_OF_THE_KNEE	27	0.535875	1.728966	0.016162	0.142592
GOBP_CELL_SURFACE_RECEPTOR_SIGNALING_PATHWAY_INVOLVED_IN_HEART_DEVELOPMENT	27	0.552501	1.728185	0.013889	0.142826
HP_ABNORMAL_DIAPHYSIS_MORPHOLOGY	254	0.373221	1.727075	0.006122	0.143217
GOBP_PLATELET_ACTIVATION	155	0.426274	1.725509	0.00998	0.143245
HP_LOW_HANGING_COLUMELLA	22	0.574344	1.725091	0.013592	0.143332
HP_ABNORMAL_PATELLA_MORPHOLOGY	89	0.480492	1.725574	0.014199	0.143504
GOBP_OSTEOBLAST_DIFFERENTIATION	200	0.391787	1.725936	<0.01	0.143509
GOBP_ACTIN_FILAMENT_ORGANIZATION	412	0.365862	1.727081	0.005917	0.143557
HP_ABNORMAL_ATRIOVENTRICULAR_VALVE_PHYSIOLOGY	155	0.381393	1.727334	0.008048	0.143576
HP_ABNORMAL_SENSORY_NERVE_CONDUCTION_VELOCITY	19	0.567385	1.726182	0.005929	0.143623
GOBP_NEGATIVE_REGULATION_OF_APOPTOTIC_SIGNALING_PATHWAY	212	0.383684	1.726398	<0.01	0.143656
GOCC_VESICLE_LUMEN	323	0.398247	1.724549	<0.01	0.143683
GOBP_AGING	278	0.361643	1.723852	<0.01	0.143829
GOBP_POSITIVE_REGULATION_OF_CYTOKINE_PRODUCTION	411	0.401983	1.72415	0.019881	0.143885
HP_ABNORMAL_SPINAL_MENINGEAL_MORPHOLOGY	21	0.648503	1.723373	0.019685	0.144041

GOBP_POSITIVE_REGULATION_OF_RESPONSE_TO_EXTERNAL_STIMULUS	474	0.393215	1.72296	0.009862	0.144204
GOBP_LEUKOCYTE_MIGRATION	431	0.415335	1.721739	0.013889	0.145143
GOBP_PROTEIN_K48_LINKED_UBIQUITINATION	60	0.469737	1.721789	0.006135	0.145417
HP_ABNORMAL_ORAL_MUCOSA_MORPHOLOGY	277	0.378466	1.719919	0.010395	0.14668
GOBP_NEGATIVE_REGULATION_OF_CELL_SUBSTRATE_ADHESION	60	0.46909	1.719586	0.011673	0.146723
GOBP_NEGATIVE_REGULATION_OF_CELL_ADHESION	268	0.405774	1.720107	0.014433	0.146843
HP_ABNORMALITY_OF_EPIDERMAL_MORPHOLOGY	68	0.47701	1.719038	0.009843	0.147011
GOMF_DISORDERED_DOMAIN_SPECIFIC_BINDING	30	0.485012	1.718596	0.007752	0.147266
GOBP_OSTEOCLAST_DEVELOPMENT	16	0.615272	1.718032	0.025743	0.147665
GOBP_NEGATIVE_REGULATION_OF_CHONDROCYTE_DIFFERENTIATION	20	0.595152	1.716414	0.019646	0.149181
GOBP_POSITIVE_REGULATION_OF_DEFENSE_RESPONSE	333	0.405741	1.714992	0.007937	0.149261
HP_DELAYED_CLOSURE_OF_THE_ANTERIOR_FONTANELLE	25	0.518397	1.716474	0.015656	0.149441
GOCC_TERTIARY_GRANULE_MEMBRANE	71	0.514104	1.714165	0.034623	0.149518
GOBP_REGULATION_OF_SUPRAMOLECULAR_FIBER_ORGANIZATION	347	0.35877	1.715023	0.004016	0.149547
HP_SPINAL_RIGIDITY	52	0.472633	1.715526	0.005964	0.149633

GOBP_REGULATION_OF_ENDOCYTOSIS	198	0.371557	1.715218	0.003883	0.149665
GOBP_COAGULATION	311	0.390081	1.714167	<0.01	0.149851
GOMF_GDP_BINDING	72	0.467747	1.715557	0.005988	0.149942
GOBP_ANTIGEN_PROCESSING_AND_PRESENTATION	226	0.440808	1.713539	0.012	0.149962
HP_STRIAE_DISTENSAE	20	0.594438	1.712404	0.022774	0.150066
GOBP_POSITIVE_REGULATION_OF_STRESS_FIBER_ASSEMBLY	51	0.447894	1.712634	0.00396	0.150077
GOBP_MAINTENANCE_OF_LOCATION_IN_CELL	200	0.359427	1.712015	0.002037	0.150208
GOBP_POSITIVE_REGULATION_OF_EPITHELIAL_CELL_PROLIFERATION	179	0.386828	1.710566	0.003868	0.150271
HP_ABNORMAL_AORTIC_VALVE_MORPHOLOGY	136	0.41622	1.712773	0.004016	0.150272
HP_ABNORMALITY_OF_THE_HUMERORADIAL_JOINT	43	0.499779	1.712979	0.011905	0.150364
HP_INCREASED_BONE_MINERAL_DENSITY	92	0.397648	1.710617	0.007663	0.150572
GOBP_MYELOID_LEUKOCYTE_DIFFERENTIATION	197	0.41101	1.710802	0.014344	0.15064
HP_ABNORMAL_FALLOPIAN_TUBE_MORPHOLOGY	27	0.565964	1.710836	0.01992	0.150912
GOBP_POSITIVE_REGULATION_OF_INTERLEUKIN_6_PRODUCTION	78	0.475187	1.710964	0.014315	0.151091
HP_DIAPHRAGMATIC_WEAKNESS	15	0.646476	1.7096	0.011605	0.151121

GOBP_POSITIVE_REGULATION_OF_CELL_MIGRATION_INVOLVED_IN_SPROUTING_ANGIOGENESIS	19	0.581143	1.709175	0.013807	0.151311
GOCC_PLATELET_ALPHA_GRANULE_MEMBRANE	16	0.633013	1.708006	0.025	0.151398
GOBP_RECEPTOR_SIGNALING_PATHWAY_VIA_STAT	144	0.396613	1.708828	0.005941	0.151421
HP_NAIL_DYSPLASIA	148	0.401525	1.708494	0.009862	0.151477
GOBP_REGULATION_OF_NITRIC_OXIDE_SYNTHASE_ACTIVITY	46	0.456979	1.708023	0.008529	0.151713
GOBP_NEGATIVE_REGULATION_OF_ANOIKIS	17	0.595077	1.706916	0.015564	0.152427
GOBP_LIPOPOLYSACCHARIDE_MEDIATED_SIGNALING_PATHWAY	56	0.495595	1.700111	0.02454	0.153454
GOCC_CLATHRIN_COAT_OF_COATED_PIT	16	0.609807	1.700154	0.020367	0.153738
GOBP_EMBRYONIC_PLACENTA_MORPHOGENESIS	23	0.544708	1.705549	0.020325	0.15379
GOBP_TOLL_LIKE_RECEPTOR_SIGNALING_PATHWAY	150	0.424099	1.704967	0.011952	0.153853
GOBP_REGULATION_OF_HOMOTYPIC_CELL_CELL_ADHESION	27	0.536716	1.698987	0.005859	0.153917
HP_PREMATURE_SKIN_WRINKLING	50	0.458451	1.704629	0.009785	0.153953
GOBP_T_CELL_CHEMOTAXIS	24	0.613345	1.700191	0.02045	0.154003
GOBP_CELLULAR_EXTRAVASATION	69	0.50411	1.704321	0.030992	0.154019
GOBP_LEUKOCYTE_CELL_CELL_ADHESION	344	0.441717	1.705108	0.028283	0.154027

GOCC_PLASMA_MEMBRANE_RAFT	110	0.423214	1.699151	0.01341	0.154027
HP_FRAGILE_NAILS	31	0.528361	1.702996	0.008114	0.154042
HP_MALE_REPRODUCTIVE_SYSTEM_NEOPLASM	58	0.455492	1.69582	0.012048	0.154048
GOCC_CLEAVAGE_FURROW	49	0.472909	1.698617	0.012245	0.154048
GOBP_REGULATION_OF_BONE_MINERALIZATION	71	0.441836	1.704055	0.007843	0.154054
GOCC_CUL3_RING_UBIQUITIN_LIGASE_COMPLEX	35	0.470677	1.703175	0.012766	0.154163
GOBP_REGULATION_OF_ANATOMICAL_STRUCTURE_SIZE	472	0.346542	1.695946	0.002	0.154186
GOBP_ENDOTHELIAL_CELL_DEVELOPMENT	66	0.459944	1.703381	0.019841	0.154214
GOCC_EXTRINSIC_COMPONENT_OF_PLASMA_MEMBRANE	164	0.372866	1.69928	<0.01	0.154225
GOBP_CEREBRAL_CORTEX_RADIALLY_ORIENTED_CELL_MIGRATION	28	0.518205	1.700212	0.009225	0.154302
GOBP_PROTEOGLYCAN_METABOLIC_PROCESS	86	0.449631	1.700425	0.021912	0.154392
HP_DEVIATION_OF_TOES	132	0.417625	1.703501	0.014286	0.154454
GOBP_POSITIVE_REGULATION_OF_DNA_BINDING	53	0.439807	1.695969	0.002016	0.154471
HP_PROGRESSIVE_PROXIMAL_MUSCLE_WEAKNESS	16	0.608415	1.698004	0.012	0.154497
HP_POOR_APPETITE	32	0.482065	1.693565	0.018109	0.154525

GOMF_CADHERIN_BINDING_INVOLVED_IN_CELL_CELL_ADHESION	18	0.625551	1.69665	0.027778	0.154584
GOBP_MULTI_ORGANISM_LOCALIZATION	65	0.493279	1.693828	0.011976	0.154587
HP_PATCHY_HYPOPIGMENTATION_OF_HAIR	17	0.562739	1.696857	0.022312	0.154648
GOBP_REGULATION_OF_CELL_JUNCTION_ASSEMBLY	189	0.398493	1.700428	0.003906	0.15471
GOBP_RESPONSE_TO_HEPATOCYTE_GROWTH_FACTOR	18	0.569968	1.693955	0.013699	0.154737
GOBP_CHONDROITIN_SULFATE_BIOSYNTHETIC_PROCESS	25	0.577531	1.694175	0.023392	0.154764
GOBP_INTRINSIC_APOPTOTIC_SIGNALING_PATHWAY_IN_RESPONSE_TO_DNA_DAMAGE	98	0.398879	1.695994	0.003854	0.154771
HP_PULMONARY_ARTERY_DILATATION	28	0.538547	1.696998	0.022774	0.15478
GOBP_REGULATION_OF_ANIMAL_ORGAN_MORPHOGENESIS	174	0.406416	1.696171	0.010183	0.154862
GOBP_POSITIVE_REGULATION_OF_MACROPHAGE_ACTIVATION	24	0.581814	1.70053	0.015779	0.154887
GOBP_POSITIVE_REGULATION_OF_AXON_EXTENSION	38	0.498425	1.697165	0.015717	0.154895
HP_ABNORMALITY_OF_MALE_INTERNAL_GENITALIA	56	0.432343	1.694321	0.008247	0.15491
GOBP_REGULATION_OF_EXTRACELLULAR_MATRIX_ASSEMBLY	15	0.631146	1.694742	0.026104	0.155052
HP_ABNORMAL_RECTUM_MORPHOLOGY	97	0.388983	1.69445	0.012	0.155093
GOBP_MACROPHAGE_ACTIVATION	94	0.489457	1.70061	0.018182	0.155111

HP_ABNORMALITY_OF_UPPER_LIMB_JOINT	442	0.364328	1.691676	0.005976	0.155116
HP_THORACIC_AORTIC_ANEURYSM	98	0.446731	1.697205	0.023483	0.15515
GOBP_REGULATION_OF_ACTIN_FILAMENT_LENGTH	174	0.3748	1.701592	0.007843	0.155199
GOBP_POSITIVE_REGULATION_OF_RESPONSE_TO_BIOTIC_STIMULUS	241	0.422195	1.691777	0.008065	0.155304
GOBP_POSITIVE_REGULATION_OF_CANONICAL_WNT_SIGNALING_PATHWAY	142	0.405374	1.70172	0.001931	0.155382
HP_INGUINAL_HERNIA	233	0.395811	1.700628	0.015779	0.15542
GOBP_REGULATION_OF_PHAGOCYTOSIS	89	0.483546	1.691903	0.026694	0.155431
GOBP_MESENCHYMAL_CELL_DIFFERENTIATION	219	0.388519	1.692096	0.013566	0.155482
HP_ABNORMALITY_OF_THE_CEREBRAL_VASCULATURE	263	0.364771	1.689287	0.002066	0.155536
GOCC_SARCOLEMMA	133	0.403346	1.690474	0.004082	0.155585
HP_BRUISING_SUSCEPTIBILITY	135	0.420831	1.692463	0.017928	0.15561
GOBP_STRESS_FIBER_ASSEMBLY	99	0.424064	1.690654	0.008114	0.155635
HP_DEATH_IN_EARLY_ADULTHOOD	29	0.529137	1.700651	0.024641	0.15574
GOBP_REGULATION_OF_CYTOSKELETON_ORGANIZATION	484	0.339834	1.692138	0.003861	0.155741
GOBP_REGULATION_OF_CELLULAR_COMPONENT_SIZE	355	0.350505	1.70091	0.002016	0.155744

HP_FIBROUS_TISSUE_NEOPLASM	69	0.431701	1.689608	0.011719	0.155766
GOBP_BIOMINERALIZATION	148	0.389525	1.689326	0.003937	0.155785
GOBP_POSITIVE_REGULATION_OF_PROTEIN_KINASE_B_SIGNALING	161	0.393039	1.686002	0.001988	0.155787
GOBP_REGULATION_OF_VESICLE_MEDIATED_TRANSPORT	489	0.34338	1.690768	0.003929	0.155821
GOCC_HOST_CELLULAR_COMPONENT	59	0.504953	1.690015	0.012	0.155822
GOBP_NEGATIVE_REGULATION_OF_KINASE_ACTIVITY	246	0.34214	1.68975	0.001988	0.155864
GOBP_POSITIVE_REGULATION_OF_PROTEIN_BINDING	82	0.402083	1.685674	0.00818	0.15587
HP_SUBARACHNOID_HEMORRHAGE	30	0.590088	1.686032	0.035644	0.156054
HP_ABNORMAL_SHARPEY_FIBER_MORPHOLOGY	22	0.533745	1.68655	0.009901	0.156292
GOBP_MYELOID_LEUKOCYTE_CYTOKINE_PRODUCTION	26	0.523782	1.683757	0.027778	0.156312
GOBP_NEGATIVE_REGULATION_OF_EXTRINSIC_APOPTOTIC_SIGNALING_PATHWAY_VIA_DEATH_DOMAIN_RECEPTORS	38	0.480288	1.686046	0.01227	0.156336
HP_DISPROPORTIONATE_SHORT_TRUNK_SHORT_STATURE	23	0.514703	1.687685	0.008247	0.156342
HP_ABNORMALITY_OF_THE_FOREARM	201	0.40392	1.681777	0.004024	0.156386
GOBP_NEGATIVE_REGULATION_OF_CELL_MATRIX_ADHESION	36	0.507724	1.686695	0.022587	0.1564
HP_HYPERKERATOSIS	236	0.380822	1.682024	0.007937	0.156407

HP_DISPROPORTIONATE_TALL_STATURE	53	0.483722	1.6841	0.018672	0.156429
HP_HOARSE_VOICE	72	0.414467	1.68616	0.012072	0.156454
HP_PEPTIC_ULCER	24	0.534011	1.683856	0.020408	0.156457
GOBP_NEGATIVE_CHEMOTAXIS	45	0.48018	1.683411	0.006085	0.156457
GOBP_AORTIC_VALVE_MORPHOGENESIS	31	0.562214	1.687761	0.016194	0.156561
GOBP_POSITIVE_REGULATION_OF_ENDOCYTOSIS	97	0.403396	1.686759	0.008081	0.156617
HP_ABNORMAL_METATARSAL_MORPHOLOGY	119	0.413835	1.684661	0.008247	0.156631
GOBP_POSITIVE_REGULATION_OF_MYELOID_LEUKOCYTE_MEDIATED_IMMUNITY	17	0.61652	1.682061	0.031683	0.156639
HP_FLEXION_CONTRACTURE_OF_DIGIT	283	0.373508	1.68486	0.010204	0.156644
GOBP_HETEROTYPIC_CELL_CELL_ADHESION	59	0.480755	1.67944	0.029703	0.156654
HP_VASCULAR_DILATATION	181	0.403318	1.687893	0.006135	0.156671
HP_ARTERIAL_STENOSIS	84	0.425319	1.684119	0.010246	0.156699
HP_ISCHEMIC_STROKE	24	0.608606	1.681303	0.044266	0.156704
HP_SOMATIC_MUTATION	158	0.394382	1.687165	0.005929	0.156724
GOBP_POSITIVE_REGULATION_OF_PROTEIN_DEPHOSPHORYLATION	45	0.46004	1.686907	0.010482	0.156725

GOBP_REGULATION_OF_CELL_MIGRATION_INVOLVED_IN_SPROUTING_ANGIOGENESIS	36	0.506326	1.679614	0.019608	0.156729
GOBP_REGULATION_OF_ENDOTHELIAL_CELL_MIGRATION	161	0.400021	1.682412	0.009843	0.156826
GOBP_TELENCEPHALON_GLIAL_CELL_MIGRATION	21	0.548812	1.6826	0.007547	0.156835
GOBP_NEGATIVE_REGULATION_OF_TRANSFERASE_ACTIVITY	275	0.336323	1.682132	0.00202	0.15685
GOBP_REGULATION_OF_DNA_DAMAGE_RESPONSE_SIGNAL_TRANSDUCTION_BY_P53_CLASS_MEDIATOR	32	0.498533	1.679724	0.012658	0.156858
HP_ABNORMAL_SCLERA_MORPHOLOGY	97	0.424863	1.687968	0.025292	0.156876
GOBP_ANTIGEN_PROCESSING_AND_PRESENTATION_OF_PEPTIDE_OR_POLYSACCHARIDE_ANTIGEN_VIA_MHC_CLASS_II	99	0.434356	1.682812	0.013889	0.156889
GOBP_RESPONSE_TO_HEAT	155	0.416753	1.684189	0.005814	0.156898
GOBP_AXONAL_FASCICULATION	18	0.569551	1.679905	0.025048	0.156928
HP_ABNORMALITY_OF_THE_WRIST	123	0.415943	1.680862	0.012121	0.156978
HP_ABNORMAL_PUPIL_MORPHOLOGY	48	0.444458	1.680085	0.013917	0.156995
HP_ASCENDING_AORTIC_DISSECTION	21	0.637969	1.680476	0.03006	0.157107
GOBP_CELL_AGING	98	0.413979	1.680104	0.005976	0.15726
HP_BLUE_SCLERAE	77	0.451149	1.673381	0.039761	0.15736
GOBP_INTERLEUKIN_2_PRODUCTION	59	0.503226	1.676431	0.045726	0.157391

HP_ABNORMALITY_OF_THE_ANKLES	124	0.385732	1.676586	0.008032	0.15742
GOBP_PLATELET_AGGREGATION	62	0.452527	1.676775	0.017751	0.157447
GOBP_REGULATION_OF_PROTEIN_SERINE_THREONINE_KINASE_ACTIVITY	465	0.323614	1.678384	0.002049	0.157502
GOBP_CELLULAR_PROTEIN_CONTAINING_COMPLEX_LOCALIZATION	19	0.549565	1.677713	0.029412	0.157521
HP_NAIL_DYSTROPHY	110	0.417496	1.677423	0.007984	0.157538
HP_HIATUS_HERNIA	27	0.534444	1.677883	0.011788	0.157589
GOCC_COMPLEX_OF_COLLAGEN_TRIMERS	20	0.720139	1.673415	0.027397	0.157595
HP_FOLLICULAR_HYPERKERATOSIS	19	0.641078	1.676904	0.031746	0.157606
HP_ULNAR_DEVIATION_OF_THE_HAND_OR_OF_FINGERS_OF_THE_HAND	45	0.481068	1.672503	0.003976	0.157644
HP_LIMB_PAIN	29	0.512635	1.67802	0.015534	0.157689
HP_STILLBIRTH	24	0.508887	1.678403	0.014141	0.157756
GOBP_LENS_FIBER_CELL_DIFFERENTIATION	30	0.50652	1.673486	0.010121	0.157779
GOBP_REGULATION_OF_CELL_CELL_ADHESION	415	0.398824	1.673716	0.024	0.157806
GOBP_CELLULAR_RESPONSE_TO_VITAMIN_D	21	0.531769	1.67276	0.021154	0.157819
GOBP_CELLULAR_RESPONSE_TO_GAMMA_RADIATION	26	0.534094	1.676931	0.014257	0.157856

HP_ULNAR_DEVIATION_OF_THE_HAND	15	0.610353	1.672524	0.01217	0.157883
HP_AORTIC_REGURGITATION	73	0.409194	1.673745	0.020619	0.158028
HP_ABNORMAL_PROXIMAL_PHALANX_MORPHOLOGY_OF_THE_HAND	24	0.542192	1.674455	0.010183	0.158262
HP_LEIOMYOSARCOMA	27	0.513587	1.674041	0.008247	0.158266
GOBP_CYTOPLASMIC_SEQUESTERING_OF_PROTEIN	22	0.533251	1.673781	0.008565	0.158273
GOBP_REGULATION_OF_COAGULATION	70	0.47449	1.674496	0.012195	0.158475
HP_URETHRAL_STENOSIS	39	0.495626	1.674077	0.020492	0.158494
HP_ARNOLD_CHIARI_MALFORMATION	67	0.463803	1.670257	0.018595	0.158667
HP_THIN_SKIN	74	0.406784	1.674502	0.007937	0.158748
GOBP_GLOMERULAR_MESANGIUM_DEVELOPMENT	15	0.665413	1.671012	0.026423	0.158839
GOBP_REGULATION_OF_EXTENT_OF_CELL_GROWTH	102	0.405727	1.67031	0.009506	0.158887
GOBP_REGULATION_OF_BIOMINERALIZATION	89	0.416783	1.669398	0.009921	0.158889
GOBP_NIK_NF_KAPPAB_SIGNALING	164	0.41139	1.670516	0.008299	0.15896
HP_ARTHROPATHY	42	0.508723	1.675034	0.044444	0.158968
GOMF_NUCLEOCYTOPLASMIC_CARRIER_ACTIVITY	30	0.585466	1.674507	0.015656	0.159014

GOBP_CHONDROCYTE_DIFFERENTIATION	97	0.442699	1.670669	0.017613	0.159018
HP_ABNORMALITY_OF_THE_INTERNAL_AUDITORY_CANAL	18	0.580007	1.669722	0.018036	0.159051
GOBP_EMBRYONIC_PLACENTA_DEVELOPMENT	77	0.428944	1.671051	0.001992	0.159062
GOBP_FOCAL_ADHESION_ASSEMBLY	85	0.450052	1.669441	0.023622	0.159119
GOBP_INTERFERON_ALPHA_PRODUCTION	28	0.570094	1.67466	0.022044	0.159127
GOMF_PHOSPHOTYROSINE_RESIDUE_BINDING	44	0.49047	1.668719	0.032454	0.159405
GOBP_NLS_BEARING_PROTEIN_IMPORT_INTO_NUCLEUS	19	0.633168	1.666002	0.028283	0.160108
GOBP_POSITIVE_REGULATION_OF_BINDING	165	0.371495	1.666175	0.004107	0.160117
HP_JOINT_HYPERMOBILITY	299	0.39714	1.665727	0.01217	0.160141
GOBP_SEMAPHORIN_PLEXIN_SIGNALING_PATHWAY	40	0.503528	1.666194	0.023762	0.160371
GOBP_CELL_MIGRATION_INVOLVED_IN_SPROUTING_ANGIOGENESIS	52	0.477139	1.666288	0.023529	0.160531
HP_OSTEOPENIA	225	0.355986	1.667068	0.009597	0.160625
GOBP_INTERLEUKIN_1_PRODUCTION	102	0.453849	1.666626	0.029354	0.160668
GOBP_REGULATION_OF_CELL_MORPHOGENESIS	298	0.356439	1.666392	0.007828	0.16068
GOBP_RESPONSE_TO_IONIZING_RADIATION	137	0.407508	1.667197	0.021611	0.160753

GOBP_NEGATIVE_REGULATION_OF_CARTILAGE_DEVELOPMENT	24	0.542611	1.664159	0.027559	0.160816
GOBP_NEGATIVE_REGULATION_OF_NUCLEOCYTOPLASMIC_TRANSPORT	20	0.526622	1.664492	0.014374	0.160853
GOBP_RESPONSE_TO_MOLECULE_OF_BACTERIAL_ORIGIN	325	0.383895	1.667281	0.011561	0.160918
GOBP_REGULATION_OF_WOUND_HEALING	121	0.419651	1.666637	0.01227	0.160929
GOBP_REGULATION_OF_ANOIKIS	23	0.523802	1.664209	0.018939	0.161005
GOBP_INTERLEUKIN_17_PRODUCTION	35	0.521012	1.66457	0.032819	0.161029
GOBP_REACTIVE_NITROGEN_SPECIES_METABOLIC_PROCESS	69	0.424468	1.663817	0.01002	0.161036
GOBP_NEGATIVE_REGULATION_OF_MONONUCLEAR_CELL_MIGRATION	22	0.566517	1.662427	0.043478	0.161125
HP_ABNORMALITY_OF_THE_RADIAL_HEAD	38	0.512831	1.664621	0.028	0.161253
GOBP_REGULATION_OF_PROTEIN_POLYMERIZATION	214	0.349992	1.662105	0.009823	0.161269
HP_ABNORMAL_PHALANGEAL_JOINT_MORPHOLOGY_OF_THE_HAND	189	0.371231	1.662477	0.010438	0.161322
GOBP_ACTIN_FILAMENT_DEPOLYMERIZATION	57	0.452779	1.663281	0.016227	0.161391
GOBP_DENDRITIC_SPINE_DEVELOPMENT	97	0.405397	1.662615	0.013944	0.161398
GOBP_AXON_EXTENSION	113	0.4067	1.663037	0.007533	0.161406
GOBP_POSITIVE_REGULATION_OF_ACTIN_FILAMENT_BUNDLE_ASSEMBLY	60	0.43326	1.66173	0.010081	0.161488

GOBP_POSITIVE_REGULATION_OF_CELL_CELL_ADHESION	269	0.433208	1.66269	0.034553	0.161564
GOBP_SPROUTING_ANGIOGENESIS	119	0.429394	1.660829	0.01996	0.162004
GOBP_ACTIN_FILAMENT_BUNDLE_ORGANIZATION	151	0.394166	1.660993	0.011858	0.162075
GOBP_REGULATION_OF_APOPTOTIC_SIGNALING_PATHWAY	326	0.353522	1.658743	<0.01	0.162635
HP_PHONOPHOBIA	15	0.620618	1.659307	0.044534	0.162692
GOBP_POSITIVE_REGULATION_OF_VASOCONSTRICTION	29	0.513921	1.657033	0.018	0.162717
HP_LIMITED_HIP_MOVEMENT	54	0.462011	1.657592	0.012048	0.162726
GOBP_POSITIVE_REGULATION_OF_PHOSPHATASE_ACTIVITY	33	0.518717	1.658857	0.03055	0.162772
GOBP_MYD88_DEPENDENT_TOLL_LIKE_RECEPTOR_SIGNALING_PATHWAY	35	0.51373	1.660025	0.021611	0.162781
GOCC_CELL_CORTEX	278	0.346367	1.657717	0.00969	0.162821
GOBP_REGULATION_OF_STRESS_ACTIVATED_PROTEIN_KINASE_SIGNALING_CASCADE	175	0.351249	1.657103	<0.01	0.162864
GOCC_ADHERENS_JUNCTION	169	0.389386	1.657826	0.008065	0.162939
HP_ABNORMAL_STOMACH_MORPHOLOGY	245	0.350079	1.659308	0.006173	0.162945
HP_ABNORMALITY_OF_THE_PLANTAR_SKIN_OF_FOOT	84	0.44146	1.657214	0.025194	0.162955
GOBP_VASCULAR_ENDOTHELIAL_GROWTH_FACTOR_PRODUCTION	34	0.493739	1.658897	0.02863	0.162967

GOBP_T_HELPER_1_CELL_DIFFERENTIATION	18	0.596587	1.659458	0.032787	0.16299
HP_JOINT_CONTRACTURE_OF_THE_HAND	222	0.364672	1.656309	0.008247	0.162995
GOBP_CHEMOKINE_PRODUCTION	89	0.450439	1.65815	0.017787	0.163044
GOBP_VESICLE_DOCKING_INVOLVED_IN_EXOCYTOSIS	44	0.456812	1.659622	0.011742	0.163066
GOBP_BONE_MINERALIZATION	108	0.402531	1.656479	0.009843	0.163068
HP_DYSTROPHIC_TOENAIL	21	0.554155	1.657862	0.029412	0.163146
HP_CONTRACTURES_OF_THE_JOINTS_OF_THE_UPPER_LIMBS	265	0.35626	1.655836	0.010331	0.163367
GOBP_POSITIVE_REGULATION_OF_INTERLEUKIN_2_PRODUCTION	30	0.577927	1.655541	0.02863	0.16344
GOBP_PROTEOGLYCAN_BIOSYNTHETIC_PROCESS	62	0.453258	1.654228	0.031434	0.164172
HP_CARIOUS_TEETH	138	0.376548	1.654286	0.016097	0.164361
GOBP_REGULATION_OF_PROTEIN_CONTAINING_COMPLEX_ASSEMBLY	423	0.324618	1.653571	<0.01	0.164473
GOBP_POSITIVE_REGULATION_OF_CHEMOTAXIS	138	0.423668	1.653674	0.032787	0.164597
GOCC_PLATELET_ALPHA_GRANULE	89	0.441215	1.6543	0.014553	0.164605
HP_ABNORMAL_SHOULDER_MORPHOLOGY	87	0.419808	1.652594	0.01833	0.165459
GOMF_WIDE_PORE_CHANNEL_ACTIVITY	28	0.508227	1.651438	0.027723	0.166548

GOBP_POSITIVE_REGULATION_OF_INTERFERON_BETA_PRODUCTION	33	0.496318	1.650974	0.015534	0.166597
HP_PES_VALGUS	37	0.471002	1.650526	0.018367	0.166598
GOBP_SALIVARY_GLAND_DEVELOPMENT	31	0.504386	1.650578	0.026915	0.166799
HP_BLOODY_DIARRHEA	34	0.488455	1.651009	0.02994	0.166818
HP_ABNORMALITY_OF_THE_ANTERIOR_FONTANELLE	96	0.395633	1.650074	0.020161	0.166924
HP_PROLONGED_BLEEDING_TIME	43	0.487827	1.649478	0.033531	0.167195
GOBP_PROTEIN_LOCALIZATION_TO_NUCLEUS	271	0.369107	1.649651	0.004016	0.167274
HP_CUTIS_MARMORATA	70	0.436483	1.645484	0.013133	0.16739
GOBP_REGULATION_OF_ACTIN_FILAMENT_BUNDLE_ASSEMBLY	96	0.415402	1.645585	0.016327	0.167532
GOBP_CRANIAL_SKELETAL_SYSTEM_DEVELOPMENT	63	0.450682	1.645979	0.019881	0.167559
GOMF_UBIQUITIN_LIKE_PROTEIN_CONJUGATING_ENZYME_ACTIVITY	36	0.530628	1.645707	0.03125	0.167639
GOBP_MONONUCLEAR_CELL_MIGRATION	180	0.441158	1.644131	0.035433	0.167657
GOMF_PEPTIDASE_ACTIVATOR_ACTIVITY	43	0.44367	1.646831	0.016807	0.167712
HP_STENOSIS_OF_THE_EXTERNAL_AUDITORY_CANAL	26	0.507595	1.646009	0.029821	0.167784
GOBP_NEUROTRANSMITTER_RECEPTOR_LOCALIZATION_TO_POSTSYNAPTIC_SPECIALIZATION_MEMBRANE	19	0.552561	1.644214	0.016461	0.167816

HP_RADIAL_BOWING	17	0.56878	1.646532	0.037344	0.167874
GOBP_DETECTION_OF_BIOTIC_STIMULUS	35	0.545735	1.646859	0.038153	0.167936
GOBP_PRESYNAPSE_ORGANIZATION	49	0.460866	1.646995	0.013359	0.168012
GOBP_REGULATION_OF_PEPTIDYL_TYROSINE_PHOSPHORYLATION	247	0.365836	1.646023	0.014228	0.16802
GOBP_CELL_CHEMOTAXIS	283	0.3952	1.644224	0.029586	0.16805
GOBP_L_GLUTAMATE_IMPORT_ACROSS_PLASMA_MEMBRANE	15	0.591474	1.646178	0.033543	0.16806
GOBP_REGULATION_OF_KERATINOCYTE_PROLIFERATION	34	0.488497	1.648392	0.015355	0.16807
HP_HEREDITARY_NONPOLYPOSIS_COLORECTAL_CARCINOMA	30	0.507787	1.647085	0.010352	0.168139
GOMF_GENERAL_TRANSCRIPTION_INITIATION_FACTOR_BINDING	45	0.479385	1.644359	0.020284	0.168142
HP_CORNEAL_OPACITY	223	0.35133	1.648464	0.00216	0.16824
GOBP_REGULATION_OF_CELLULAR_RESPONSE_TO_HEAT	78	0.484331	1.648019	0.019763	0.168255
GOBP_PROTEIN_K63_LINKED_UBIQUITINATION	56	0.423506	1.647571	0.007752	0.168315
GOBP_POSITIVE_REGULATION_OF_ACTIN_FILAMENT_POLYMERIZATION	92	0.38864	1.644596	0.006061	0.168318
GOCC_CELL_CELL_JUNCTION	472	0.344693	1.64713	0.003914	0.168349
GOBP_POSITIVE_REGULATION_OF_MACROAUTOPHAGY	57	0.426862	1.644378	0.019231	0.168373

HP_THIN_RIBS	43	0.45301	1.642122	0.010288	0.168495
GOBP_CELL_JUNCTION_ASSEMBLY	414	0.362461	1.647597	0.00998	0.16854
GOBP_L_GLUTAMATE_TRANSMEMBRANE_TRANSPORT	25	0.496947	1.638495	0.027613	0.168541
HP_PLANTAR_HYPERKERATOSIS	47	0.514838	1.642878	0.047431	0.168556
GOBP_POSITIVE_REGULATION_OF_ENDOTHELIAL_CELL_PROLIFERATION	87	0.408409	1.647179	0.011605	0.168571
GOBP_CELLULAR_RESPONSE_TO_LIPOPROTEIN_PARTICLE_STIMULUS	30	0.529302	1.642637	0.028283	0.168619
GOMF_PLATELET_DERIVED_GROWTH_FACTOR_RECEPTOR_BINDING	15	0.642659	1.642236	0.042945	0.168623
GOMF_SUMO_BINDING	15	0.576786	1.638607	0.015748	0.168646
GOCC_AZUROPHIL_GRANULE_LUMEN	89	0.421771	1.638964	0.021654	0.168683
GOBP_INTERLEUKIN_1_BETA_PRODUCTION	88	0.457379	1.640742	0.033465	0.168701
GOBP_NEGATIVE_REGULATION_OF_CHEMOTAXIS	57	0.438902	1.638157	0.017717	0.168707
GOBP_EMBRYO_IMPLANTATION	44	0.448618	1.641735	0.011742	0.168736
GOCC_VACUOLAR_LUMEN	167	0.414845	1.642918	0.019763	0.16874
GOBP_REGULATION_OF_AXONOGENESIS	149	0.384048	1.641538	0.015414	0.168741
HP_ABNORMAL_UPPER_LIMB_BONE_MORPHOLOGY	392	0.363695	1.642289	0.011881	0.168789

GOBP_B_CELL_HOMEOSTASIS	27	0.554981	1.638678	0.036885	0.16881
GOBP_POSITIVE_REGULATION_OF_VASCULAR_ENDOTHELIAL_GROWTH_FACTOR_PRODUCTION	27	0.530518	1.640873	0.028866	0.168815
HP_ABNORMALITY_OF_CRANIAL_SUTURES	278	0.360525	1.637858	0.00409	0.168873
GOBP_TOLL_LIKE_RECEPTOR_2_SIGNALING_PATHWAY	17	0.599677	1.641191	0.03666	0.168883
HP_INSOMNIA	41	0.457945	1.639003	0.018789	0.168892
GOBP_CARTILAGE_DEVELOPMENT	170	0.4027	1.640994	0.017928	0.168907
GOBP_POSITIVE_REGULATION_OF_MACROPHAGE_CHEMOTAXIS	17	0.589147	1.642942	0.026316	0.168944
HP_ABNORMALITY_OF_FEMUR_MORPHOLOGY	231	0.375394	1.639844	0.013889	0.169079
GOBP_COLLAGEN_METABOLIC_PROCESS	101	0.440579	1.639047	0.031809	0.169093
GOBP_CARDIAC_ATRIUM_MORPHOGENESIS	27	0.523804	1.639642	0.028902	0.169103
GOBP_REGULATION_OF_CHEMOTAXIS	212	0.394219	1.639102	0.026694	0.169267
GOBP_REGULATION_OF_CELLULAR_RESPONSE_TO_GROWTH_FACTOR_STIMULUS	261	0.384663	1.639886	0.011881	0.169287
GOMF_HISTONE_KINASE_ACTIVITY	15	0.62608	1.639203	0.028112	0.169395
HP_APHASIA	70	0.414956	1.636606	0.014	0.169408
GOBP_EXTRACELLULAR_MATRIX_ASSEMBLY	44	0.511696	1.639899	0.041667	0.169512

HP_EXTERNAL_EAR_MALFORMATION	82	0.438128	1.636679	0.020325	0.169562
GOMF_TBP_CLASS_PROTEIN_BINDING	26	0.53215	1.637021	0.014228	0.169667
GOBP_EPITHELIAL_CELL_APOPTOTIC_PROCESS	101	0.394551	1.636782	0.006369	0.169682
GOBP_NEURON_PROJECTION_EXTENSION_INVOLVED_IN_NEURON_PROJECTION_GUIDANCE	37	0.490623	1.632381	0.025794	0.169918
GOBP_RUFFLE_ORGANIZATION	53	0.430031	1.632118	0.020576	0.16996
HP_ABNORMALITY_OF_THE_MAXILLA	130	0.394551	1.631508	0.013917	0.169986
GOBP_STRESS_ACTIVATED_PROTEIN_KINASE_SIGNALING_CASCADE	266	0.335594	1.631694	0.004124	0.169996
HP_PES_PLANUS	286	0.368002	1.631813	0.009804	0.170101
HP_ARTHRITIS	186	0.383807	1.632425	0.018557	0.170109
GOBP_NEGATIVE_REGULATION_OF_ENDOTHELIAL_CELL_PROLIFERATION	37	0.475986	1.632557	0.018828	0.170181
GOBP_MAINTENANCE_OF_PROTEIN_LOCATION_IN_CELL	63	0.398072	1.635743	0.010438	0.170314
HP_EXOSTOSES	20	0.544016	1.632628	0.028056	0.170335
HP_PROMINENT_SUPERFICIAL_BLOOD_VESSELS	26	0.495895	1.633587	0.022634	0.170337
GOBP_VASCULAR_ENDOTHELIAL_GROWTH_FACTOR_SIGNALING_PATHWAY	40	0.492188	1.63299	0.033058	0.170381
GOBP_ACTIN_FILAMENT_SEVERING	16	0.561638	1.633694	0.01992	0.170432

GOBP_MESENCHYME_DEVELOPMENT	272	0.375666	1.63271	0.015686	0.170492
GOBP_NEURAL_CREST_CELL_DIFFERENTIATION	88	0.403066	1.633805	0.016064	0.170533
GOBP_MODULATION_BY_VIRUS_OF_HOST_PROCESS	29	0.488551	1.635378	0.025391	0.170547
HP_HETEROCHROMIA_IRIDIS	19	0.536302	1.63299	0.024291	0.170617
GOBP_ANTIGEN_PROCESSING_AND_PRESENTATION_OF_PEPTIDE_ANTIGEN	187	0.438207	1.633896	0.020284	0.170664
GOBP_REGULATION_OF_EPIDERMAL_GROWTH_FACTOR_ACTIVATED_RECEPTOR_ACTIVITY	30	0.460308	1.633117	0.029586	0.17067
GOBP_POSITIVE_REGULATION_OF_OXIDOREDUCTASE_ACTIVITY	53	0.413927	1.634969	0.006122	0.170812
GOBP_CELLULAR_RESPONSE_TO_NUTRIENT	40	0.446986	1.633947	0.017787	0.170829
GOBP_REGULATION_OF_ACTOMYOSIN_STRUCTURE_ORGANIZATION	91	0.405293	1.634587	0.01417	0.17099
GOBP_NON_CANONICAL_WNT_SIGNALING_PATHWAY	151	0.382097	1.634168	0.00998	0.171
HP_ASCENDING_TUBULAR_AORTA_ANEURYSM	16	0.568175	1.633956	0.029412	0.171051
GOBP_NEGATIVE_REGULATION_OF_MAP_KINASE_ACTIVITY	72	0.390036	1.634266	0.006173	0.171104
GOCC_INTERCALATED_DISC	48	0.438933	1.629663	0.018595	0.171106
GOBP_REGULATION_OF_PROTEIN_MODIFICATION_BY_SMALL_PROTEIN_CONJUGATION_OR_REMOVAL	226	0.364811	1.629706	0.006211	0.1713
GOBP_POSITIVE_REGULATION_OF_CELLULAR_EXTRAVASATION	16	0.579566	1.629835	0.034694	0.171439

GOBP_POSITIVE_REGULATION_OF_LEUKOCYTE_MIGRATION	132	0.420792	1.629222	0.036	0.171477
GOBP_POSITIVE_REGULATION_OF_CELLULAR_PROTEIN_LOCALIZATION	289	0.338526	1.62901	0.004024	0.171526
GOBP_CELLULAR_RESPONSE_TO_OSMOTIC_STRESS	39	0.433058	1.630044	0.014706	0.171604
GOBP_OSTEOCLAST_DIFFERENTIATION	89	0.445833	1.628652	0.018072	0.171751
GOCC_MIDBODY	181	0.37778	1.626081	0.017928	0.171945
GOBP_ANATOMICAL_STRUCTURE_ARRANGEMENT	15	0.590205	1.625291	0.031746	0.171994
HP_JOINT_LAXITY	200	0.37255	1.625416	0.014463	0.172025
GOBP_PROTEIN_LOCALIZATION_TO_CELL_PERIPHERY	319	0.326563	1.625801	0.005952	0.172052
GOBP_ENDOCARDIAL_CUSHION_FORMATION	24	0.574129	1.62611	0.037549	0.172145
GOBP_REGULATION_OF_TYPE_I_INTERFERON_MEDIATED_SIGNALING_PATHWAY	33	0.466263	1.625492	0.021696	0.172173
GOBP_REGULATION_OF_PROTEIN_LOCALIZATION_TO_NUCLEUS	129	0.375713	1.626115	0.005747	0.172375
GOBP_VASCULAR_ENDOTHELIAL_CELL_PROLIFERATION	19	0.51597	1.624638	0.020408	0.172397
GOBP_RESPONSE_TO_TUMOR_NECROSIS_FACTOR	301	0.365819	1.626242	0.010204	0.17247
GOBP_NEGATIVE_REGULATION_OF_PHAGOCYTOSIS	20	0.591509	1.624331	0.032854	0.172548
GOBP_POSITIVE_REGULATION_OF_NF_KAPPAB_TRANSCRIPTION_FACTOR_ACTIVITY	158	0.370653	1.626307	0.020921	0.1726

GOBP_NEURON_RECOGNITION	45	0.468683	1.624639	0.034951	0.172624
HP_ABNORMALITY_OF_CHROMOSOME_STABILITY	48	0.529787	1.622483	0.048096	0.172695
GOBP_REGULATION_OF_RESPONSE_TO_WOUNDING	150	0.393375	1.62264	0.010309	0.172719
GOBP_MEMBRANE_FISSION	15	0.581108	1.62364	0.024242	0.172726
GOBP_INTERLEUKIN_6_MEDIATED_SIGNALING_PATHWAY	22	0.548397	1.626583	0.04	0.17275
GOBP_REGULATION_OF_CELL_MORPHOGENESIS_INVOLVED_IN_DIFFERENTIATION	93	0.391717	1.626329	0.013487	0.172797
GOBP_REPRODUCTIVE_SYSTEM_DEVELOPMENT	388	0.332436	1.623723	0.003914	0.17286
GOBP_MEMBRANE_PROTEIN_INTRACELLULAR_DOMAIN_PROTEOLYSIS	20	0.544599	1.626671	0.033465	0.172862
GOBP_POSITIVE_REGULATION_OF_PROTEIN_SERINE_THREONINE_KINASE_ACTIVITY	300	0.326623	1.627209	0.002	0.172865
GOCC_SPECIFIC_GRANULE	157	0.410613	1.622665	0.031496	0.172924
GOBP_NEGATIVE_REGULATION_OF_CELL_CELL_ADHESION	172	0.396377	1.626953	0.028866	0.172955
HP_ELBOW_FLEXION_CONTRACTURE	72	0.406004	1.627515	0.017964	0.172974
HP_TEMPORAL_CORTICAL_ATROPHY	19	0.525432	1.623022	0.022312	0.172988
GOBP_ESTABLISHMENT_OF_TISSUE_POLARITY	121	0.416191	1.627289	0.025692	0.173004
GOBP_MORPHOGENESIS_OF_A_POLARIZED_EPITHELIUM	142	0.395843	1.623193	0.017964	0.173007

GOBP_POSITIVE_REGULATION_OF_I_KAPPAB_KINASE_NF_KAPPAB_SIGNALING	180	0.369389	1.62671	0.006237	0.173049
GOBP_NEGATIVE_REGULATION_OF_JNK_CASCADE	36	0.443883	1.621345	0.012146	0.173397
HP_APLASIA_HYPOPLASIA_OF_THE_EYELID	33	0.484775	1.62141	0.02863	0.173558
GOMF_EPIDERMAL_GROWTH_FACTOR_RECEPTOR_BINDING	33	0.462931	1.620416	0.028261	0.173682
GOBP_POSITIVE_REGULATION_OF_TYPE_I_INTERFERON_PRODUCTION	75	0.418002	1.621494	0.031434	0.173685
GOBP_REGULATION_OF_CELLULAR_EXTRAVASATION	33	0.503902	1.620662	0.042084	0.173795
GOBP_NEURON_PROJECTION_ORGANIZATION	89	0.400517	1.620459	0.007905	0.173843
GOBP_REGULATION_OF_RECEPTOR_RECYCLING	22	0.491851	1.620676	0.028747	0.174008
HP_ABNORMAL_BLEEDING	430	0.342679	1.619906	0.004149	0.174074
GOBP_POSITIVE_REGULATION_OF_FAT_CELL_DIFFERENTIATION	61	0.421435	1.619374	0.011673	0.174467
GOBP_REPLICATIVE_SENESCENCE	16	0.549436	1.615569	0.039139	0.174652
GOBP_AMINOGLYCAN_METABOLIC_PROCESS	169	0.386121	1.616767	0.01848	0.174688
GOBP_REGULATION_OF_PROTEIN_IMPORT	59	0.416959	1.615697	0.014493	0.174719
GOBP_POSITIVE_REGULATION_OF_CELL_JUNCTION_ASSEMBLY	94	0.39655	1.615856	0.011742	0.17473
HP_PSEUDOEPIPHYSES	15	0.596277	1.61682	0.033195	0.174845

HP_ONYCHOGRYPOSIS	22	0.597329	1.616243	0.039526	0.174896
GOCC_ENDOPLASMIC_RETICULUM_LUMEN	299	0.390216	1.615198	0.034979	0.174906
GOBP_NEURAL_CREST_CELL_MIGRATION	54	0.427208	1.615869	0.013699	0.174938
GOBP_MEMBRANE_INVAGINATION	71	0.437403	1.616347	0.027368	0.174979
GOMF_CHEMOKINE_RECEPTOR_BINDING	56	0.500452	1.616873	0.041096	0.174981
HP_ABNORMALITY_OF_THE_ULNA	135	0.410806	1.615982	0.012195	0.175024
GOBP_BLASTOCYST_GROWTH	19	0.584987	1.616948	0.018519	0.175105
GOBP_MAINTENANCE_OF_CELL_POLARITY	18	0.537105	1.618654	0.014085	0.175154
GOBP_POSITIVE_REGULATION_OF_SMALL_GTPASE_MEDIATED_SIGNAL_TRANSDUCTION	75	0.415697	1.613966	0.011719	0.175169
GOBP_PYRUVATE_METABOLIC_PROCESS	143	0.395868	1.613744	0.01004	0.175195
GOBP_MODULATION_BY_SYMBIONT_OF_HOST_PROCESS	35	0.458175	1.614633	0.029644	0.175196
GOBP_POSITIVE_REGULATION_OF_MACROPHAGE_MIGRATION	24	0.557951	1.614059	0.043651	0.17526
GOBP_REGULATION_OF_SIGNALING_RECEPTOR_ACTIVITY	173	0.359602	1.616961	0.006073	0.17532
GOCC_SECRETORY_GRANULE_MEMBRANE	290	0.379544	1.61468	0.031683	0.175344
GOBP_HEART_VALVE_DEVELOPMENT	60	0.484177	1.618305	0.028	0.175382

GOBP_REGULATION_OF_EARLY_ENDOSOME_TO_LATE_ENDOSOME_TRANSPORT	17	0.579873	1.614292	0.038855	0.175399
HP_WORMIAN_BONES	46	0.463771	1.614075	0.017578	0.175457
GOBP_REGULATION_OF_T_HELPER_1_TYPE_IMMUNE_RESPONSE	26	0.579982	1.617016	0.041754	0.175481
HP_MILD_SHORT_STATURE	20	0.54931	1.617425	0.032946	0.175623
HP_CUPPED_RIBS	20	0.54331	1.617221	0.033597	0.175649
GOBP_POSITIVE_REGULATION_OF_SUBSTRATE_ADHESION_DEPENDENT_CELL_SPREADING	41	0.471482	1.613201	0.018443	0.17566
GOBP_POSITIVE_REGULATION_OF_PROTEIN_MODIFICATION_BY_SMALL_PROTEIN_CONJUGATION_OR_REMOVAL	130	0.38531	1.617022	0.004167	0.175696
GOBP_REGULATION_OF_CARDIAC_MUSCLE_CELL_ACTION_POTENTIAL	26	0.485866	1.617507	0.020202	0.175745
GOBP_RECEPTOR_METABOLIC_PROCESS	162	0.360411	1.617822	0.015936	0.175801
GOBP_POSITIVE_REGULATION_OF_INTERLEUKIN_17_PRODUCTION	18	0.594061	1.617532	0.03861	0.175939
GOBP_RESPONSE_TO_OSMOTIC_STRESS	81	0.380558	1.612476	0.01232	0.176116
HP_ABNORMALITY_OF_THE_ELBOW	230	0.378866	1.612566	0.01626	0.176229
GOBP_NEGATIVE_REGULATION_OF_STRESS_ACTIVATED_PROTEIN_KINASE_SIGNALING_CASCADE	45	0.419391	1.610416	0.010101	0.176341
GOBP_TRANSMEMBRANE_RECEPTOR_PROTEIN_SERINE_THREONINE_KINASE_SIGNALING_PATHWAY	328	0.353329	1.610491	0.003802	0.176464
GOBP_EXTRINSIC_APOPTOTIC_SIGNALING_PATHWAY_VIA_DEATH_DOMAIN_RECEPTORS	79	0.385839	1.61051	0.012605	0.176661

GOBP_ARP2_3_COMPLEX_MEDIATED_ACTIN_NUCLEATION	35	0.468105	1.611817	0.024145	0.176701
GOBP_MICROTUBULE_ORGANIZING_CENTER_LOCALIZATION	30	0.493118	1.610543	0.02766	0.176839
GOBP_REGULATION_OF_PHOSPHATIDYLINOSITOL_3_KINASE_SIGNALING	119	0.398056	1.609659	0.014286	0.176863
GOBP_CELL_CYCLE_G1_S_PHASE_TRANSITION	260	0.389818	1.609727	0.042339	0.176986
GOMF_GAP_JUNCTION_CHANNEL_ACTIVITY	19	0.550231	1.610548	0.040404	0.177046
GOCC_CONNEXIN_COMPLEX	19	0.550231	1.610548	0.040404	0.177263
HP_CHROMOSOME_BREAKAGE	28	0.56641	1.60908	0.038697	0.177356
GOBP_POSITIVE_REGULATION_OF_AXONOGENESIS	77	0.412368	1.61061	0.020952	0.177399
GOCC_SITE_OF_POLARIZED_GROWTH	183	0.373605	1.610966	0.01232	0.177409
HP_OVARIAN_NEOPLASM	64	0.435863	1.608831	0.033195	0.177464
GOBP_IMMUNE_RESPONSE_REGULATING_SIGNALING_PATHWAY	388	0.388285	1.610733	0.029528	0.177466
GOBP_DENDRITIC_CELL_MIGRATION	29	0.575228	1.611105	0.046875	0.177475
GOBP_DEFENSE_RESPONSE_TO_VIRUS	235	0.386126	1.608196	0.025105	0.177822
GOCC_PHOSPHATASE_COMPLEX	50	0.445159	1.608279	0.031936	0.177928
HP_ABNORMALITY_OF_THE_ZYGOMATIC_BONE	221	0.361263	1.607642	0.011858	0.178367

GOBP_RESPONSE_TO_MECHANICAL_STIMULUS	197	0.355829	1.606435	0.004032	0.178969
HP_ALOPECIA	188	0.36008	1.603773	0.005929	0.179069
GOBP_POSITIVE_REGULATION_OF_DEPHOSPHORYLATION	58	0.425484	1.606524	0.016701	0.179088
GOBP_NEGATIVE_REGULATION_OF_RESPONSE_TO_WOUNDING	84	0.423905	1.60666	0.014085	0.179135
GOCC_TRANS_GOLGI_NETWORK_TRANSPORT_VESICLE	30	0.473954	1.603875	0.03937	0.179144
HP_ABNORMALITY_OF_THE_GASTRIC_MUCOSA	33	0.47228	1.604408	0.031056	0.17915
GOBP_POSITIVE_REGULATION_OF_VIRAL_LIFE_CYCLE	32	0.473439	1.604418	0.038855	0.179357
HP_RAYNAUD_PHENOMENON	20	0.532371	1.604012	0.016563	0.179383
GOBP_REGULATION_OF_MYELINATION	41	0.434246	1.604477	0.028986	0.179495
HP_PERSEVERATION	18	0.528601	1.605295	0.031068	0.179556
HP_ECCHYMOSIS	42	0.448095	1.605765	0.028112	0.179603
HP_FEMORAL_HERNIA	17	0.562183	1.604482	0.040619	0.179704
GOCC_CELL_DIVISION_SITE	58	0.432175	1.604948	0.037924	0.17975
GOBP_PLATELET_DEGRANULATION	125	0.408503	1.605305	0.026639	0.179754
GOBP_CELL_MIGRATION_INVOLVED_IN_HEART_DEVELOPMENT	17	0.587088	1.604541	0.030426	0.179828

GOBP_PROTEIN_KINASE_B_SIGNALING	243	0.350198	1.605412	0.00404	0.179845
GOCC_CYTOPLASMIC_SIDE_OF_MEMBRANE	185	0.332901	1.60282	0.006073	0.180012
GOBP_BLOOD_VESSEL_ENDOTHELIAL_CELL_MIGRATION	110	0.412623	1.602511	0.022222	0.180212
HP_DEEP_PHILTRUM	51	0.451352	1.600616	0.025641	0.181875
GOCC_CAVEOLA	79	0.412115	1.60067	0.025	0.182032
GOBP_POSITIVE_REGULATION_OF_PATTERN_RECOGNITION_RECEPTOR_SIGNALING_PATHWAY	40	0.462162	1.60024	0.024242	0.182127
HP_JOINT_DISLOCATION	339	0.353661	1.599853	0.013725	0.182167
GOBP_REGULATION_OF_LEUKOCYTE_MIGRATION	199	0.404	1.600014	0.045635	0.182203
GOBP_CELLULAR_RESPONSE_TO_EXTRACELLULAR_STIMULUS	227	0.32825	1.598317	0.001942	0.18224
GOBP_ORGANELLE_MEMBRANE_FUSION	105	0.364275	1.598461	0.01833	0.182254
HP_PAIN_IN_HEAD_AND_NECK_REGION	32	0.460194	1.599092	0.033268	0.182304
GOBP_MESODERM_DEVELOPMENT	113	0.385261	1.599446	0.01227	0.182463
GOBP_NEGATIVE_REGULATION_OF_PROTEIN_TYROSINE_KINASE_ACTIVITY	29	0.443685	1.598598	0.027132	0.182513
GOBP_REGULATION_OF_JUN_KINASE_ACTIVITY	82	0.377451	1.599248	0.007767	0.182516
GOBP_NEGATIVE_REGULATION_OF_PROTEIN_SERINE_THREONINE_KINASE_ACTIVITY	130	0.347466	1.598658	0.007859	0.182657

HP_ABNORMALITY_OF_THE_TARSAL_BONES	104	0.384639	1.597689	0.017408	0.182752
HP_ABNORMAL_BRAIN_POSITRON_EMISSION_TOMOGRAPHY	28	0.46666	1.596682	0.02381	0.182999
GOBP_POSITIVE_REGULATION_OF_NIK_NF_KAPPAB_SIGNALING	65	0.421206	1.597323	0.02268	0.183032
GOBP_BRANCHING_INVOLVED_IN_BLOOD_VESSEL_MORPHOGENESIS	31	0.489715	1.5962	0.032064	0.183162
HP_ASYMMETRIC_GROWTH	45	0.437863	1.596689	0.032653	0.183206
HP_LIMITED_ELBOW_MOVEMENT	121	0.378689	1.596699	0.013861	0.183401
HP_ABNORMAL_AORTIC_VALVE_PHYSIOLOGY	131	0.366485	1.595533	0.027368	0.183626
HP_ABNORMALITY_OF_BONE_MINERAL_DENSITY	500	0.31113	1.595597	0.005917	0.183738
GOBP_PROTEIN_LOCALIZATION_TO_PLASMA_MEMBRANE	267	0.33271	1.594662	0.01833	0.184032
GOBP_POSITIVE_REGULATION_OF_PRODUCTION_OF_MOLECULAR_MEDIATOR_OF_IMMUNE_RESPONSE	94	0.413701	1.594677	0.039526	0.184234
GOMF_HYALURONIC_ACID_BINDING	20	0.559153	1.594752	0.040404	0.184347
GOBP_SMALL_GTPASE_MEDIATED_SIGNAL_TRANSDUCTION	494	0.331626	1.593766	0.007952	0.184942
GOBP_POSITIVE_REGULATION_OF_MEMBRANE_PROTEIN_ECTODOMAIN_PROTEOLYSIS	15	0.566836	1.592843	0.039583	0.185323
HP_ABNORMALITY_OF_PRIMARY_TEETH	58	0.421077	1.593089	0.014	0.185439
HP_WEIGHT_LOSS	271	0.335089	1.592878	0.002	0.185494

HP_ABNORMAL_UTERUS_MORPHOLOGY	123	0.403668	1.592479	0.030801	0.185541
HP_VERTEBRAL_COMPRESSION_FRACTURES	28	0.4998	1.591801	0.030738	0.186204
HP_MICRONODULAR_CIRRHOSIS	20	0.539447	1.591476	0.03252	0.186431
GOMF_PHOSPHATIDYLINOSITOL_3_4_5_TRISPHOSPHATE_BINDING	38	0.464969	1.590374	0.03666	0.187562
GOBP_BLOOD_VESSEL_ENDOTHELIAL_CELL_PROLIFERATION_INVOLVED_IN_SPROUTING_ANGIOGENESIS	22	0.516778	1.589709	0.025794	0.188141
GOBP_POSTSYNAPSE_ORGANIZATION	156	0.365847	1.58951	0.017613	0.188208
GOBP_POSITIVE_REGULATION_OF_INTERLEUKIN_8_PRODUCTION	54	0.454501	1.589094	0.039014	0.188514
GOBP_NEGATIVE_REGULATION_OF_BONE_MINERALIZATION	17	0.555055	1.587997	0.032064	0.189142
GOCC_EARLY_ENDOSOME_MEMBRANE	153	0.353798	1.588355	0.012024	0.189147
GOBP_REGULATION_OF_WNT_SIGNALING_PATHWAY	350	0.335858	1.587799	0.005929	0.189169
GOBP_REGULATION_OF_DENDRITIC_SPINE_DEVELOPMENT	59	0.424973	1.588112	0.037475	0.189213
GOBP_POSITIVE_REGULATION_OF_CHEMOKINE_PRODUCTION	58	0.464304	1.5884	0.04175	0.189287
GOBP_POSITIVE_REGULATION_OF_INTERFERON_ALPHA_PRODUCTION	22	0.552782	1.586812	0.031683	0.190281
GOBP_ALANINE_TRANSPORT	15	0.563572	1.586625	0.037383	0.190328
GOCC_CLATHRIN_COAT	44	0.437903	1.585568	0.023904	0.191212

GOBP_CEREBRAL_CORTEX_DEVELOPMENT	102	0.391954	1.5853	0.019417	0.191352
GOBP_REGULATION_OF_NIK_NF_KAPPAB_SIGNALING	90	0.394558	1.583803	0.03252	0.191622
HP_SCARRING	156	0.349049	1.584769	0.008114	0.191636
GOBP_LEUKOCYTE_APOPTOTIC_PROCESS	99	0.399542	1.583952	0.042169	0.191643
GOCC_ENDOLYSOSOME	23	0.527502	1.583114	0.035644	0.191697
HP_DENTAL_CROWDING	84	0.418954	1.584867	0.028169	0.191723
HP_CACHEXIA	60	0.406813	1.583352	0.02621	0.191802
GOBP_GLAND_MORPHOGENESIS	109	0.387157	1.583994	0.01833	0.191808
HP_SELECTIVE_TOOTH_AGENESIS	29	0.478773	1.583177	0.034483	0.191826
GOBP_REGULATION_OF_TRANSMEMBRANE_RECEPTOR_PROTEIN_SERINE_THREONINE_KINASE_SIGNALING_PATHWAY	229	0.360947	1.58259	0.011696	0.191886
GOBP_REGULATION_OF_MACROPHAGE_DIFFERENTIATION	20	0.537406	1.583417	0.046122	0.191927
HP_LONG_TOE	30	0.494203	1.584006	0.040404	0.192
GOBP_REGULATION_OF_PATTERN_RECOGNITION_RECEPTOR_SIGNALING_PATHWAY	97	0.379075	1.582618	0.023952	0.192063
GOBP_INTERLEUKIN_6_PRODUCTION	129	0.427843	1.582281	0.039841	0.19209
GOBP_POSITIVE_REGULATION_OF_ERBB_SIGNALING_PATHWAY	39	0.455696	1.584201	0.018256	0.192196

HP_DECREASED_MUSCLE_MASS	51	0.426845	1.581225	0.031579	0.192288
HP_BLADDER_NEOPLASM	35	0.453169	1.581354	0.026316	0.192375
GOBP_NEGATIVE_REGULATION_OF_AXON_EXTENSION	43	0.423841	1.580692	0.028056	0.192578
GOBP_REGULATION_OF_STEM_CELL_PROLIFERATION	37	0.434084	1.580814	0.028902	0.192625
HP_ABNORMALITY_OF_THE_GINGIVA	191	0.350877	1.580107	0.017928	0.192708
HP_APLASIA_HYPOPLASIA_OF_THE_ABDOMINAL_WALL_MUSCULATURE	34	0.46134	1.580306	0.02045	0.192846
GOBP_TUMOR_NECROSIS_FACTOR_SUPERFAMILY_CYTOKINE_PRODUCTION	142	0.41047	1.580114	0.044807	0.192908
GOBP_NEGATIVE_REGULATION_OF_AXONOGENESIS	65	0.396052	1.578826	0.01992	0.194051
GOBP_MODULATION_BY_SYMBIONT_OF_ENTRY_INTO_HOST	46	0.462785	1.577969	0.031983	0.194752
GOBP_RESPONSE_TO_AMPHETAMINE	30	0.462725	1.578029	0.01581	0.194881
HP_ABNORMALITY_OF_THE_SYNOVIA	299	0.349604	1.577643	0.015504	0.194991
HP_ABSENT_EARLOBE	15	0.612021	1.577445	0.044922	0.195041
GOCC_ENDOCYTIC_VESICLE	299	0.362359	1.576927	0.030675	0.195057
GOBP_ACTIVATION_OF_MAPKK_ACTIVITY	50	0.432214	1.57614	0.022044	0.195464
HP_INCREASED_INTRACRANIAL_PRESSURE	75	0.392511	1.57624	0.014056	0.19557

HP_ABNORMAL_CORTICAL_BONE_MORPHOLOGY	67	0.397707	1.576314	0.032129	0.195675
GOBP_REGULATION_OF_MAP_KINASE_ACTIVITY	298	0.319871	1.57379	0.003984	0.196216
HP_ABNORMAL_RIGHT_VENTRICULAR_FUNCTION	18	0.534801	1.574222	0.031712	0.196239
GOBP_CENTRAL_NERVOUS_SYSTEM_NEURON_AXONOGENESIS	35	0.463865	1.573864	0.03675	0.196317
GOBP_AXON_DEVELOPMENT	495	0.336981	1.574017	0.01145	0.19632
HP_SKIN_ULCER	111	0.388293	1.575201	0.040816	0.196431
HP_ABNORMAL_ESOPHAGUS_MORPHOLOGY	171	0.364645	1.57423	0.014493	0.196443
GOBP_NEGATIVE_REGULATION_OF_IMMUNE_EFFECTOR_PROCESS	122	0.407018	1.574621	0.042424	0.196556
GOBP_POSITIVE_REGULATION_OF_ORGANIC_ACID_TRANSPORT	34	0.451567	1.574722	0.017682	0.196651
GOBP_NUCLEOTIDE_PHOSPHORYLATION	126	0.384231	1.574389	0.010504	0.196669
HP_PECTUS_EXCAVATUM	246	0.366994	1.57325	0.030426	0.196718
GOBP_POSITIVE_REGULATION_OF_NITRIC_OXIDE_METABOLIC_PROCESS	36	0.459588	1.574788	0.042683	0.196785
GOBP_SPINDLE_LOCALIZATION	51	0.468177	1.572877	0.040241	0.196807
GOBP_KERATINOCYTE_PROLIFERATION	45	0.443273	1.572504	0.027397	0.196866
GOBP_NEURON_DEATH	329	0.318272	1.572092	0.004024	0.196942

GOBP_REGULATION_OF_MEMBRANE_INVAGINATION	16	0.577331	1.572893	0.038855	0.196991
GOBP_POSITIVE_REGULATION_OF_INFLAMMATORY_RESPONSE	118	0.410773	1.571841	0.038314	0.197058
HP_ABNORMALITY_OF_DENTAL_STRUCTURE	272	0.33538	1.571016	0.008081	0.197545
GOBP_CHONDROITIN_SULFATE_PROTEOGLYCAN_METABOLIC_PROCESS	42	0.457873	1.571162	0.031683	0.197558
GOBP_CELL_CELL_JUNCTION_ORGANIZATION	200	0.357923	1.570353	0.013972	0.19785
GOBP_NEGATIVE_REGULATION_OF_MAPK_CASCADE	162	0.331157	1.570616	0.010142	0.197865
HP_MICRODONTIA	109	0.365861	1.570447	0.01996	0.19794
HP_RENAL_CELL_CARCINOMA	69	0.385532	1.569928	0.027723	0.19821
GOBP_RESPONSE_TO_NUTRIENT	160	0.348656	1.569527	0.008282	0.198553
GOBP_NEGATIVE_REGULATION_OF_PROTEIN_LOCALIZATION_TO_MEMBRANE	28	0.478582	1.567974	0.026531	0.198742
HP_FINE_HAIR	64	0.412756	1.568758	0.033932	0.198743
HP_LIMITED_ELBOW_EXTENSION	34	0.477762	1.567749	0.035088	0.198822
GOBP_PEPTIDYL_TYROSINE_MODIFICATION	356	0.337827	1.568825	0.014199	0.198875
GOBP_POSITIVE_REGULATION_OF_PROTEOLYSIS	349	0.316724	1.567982	0.005976	0.198933
HP_HYPERLORDOSIS	173	0.371084	1.568859	0.019841	0.19904

GOBP_EXOCRINE_SYSTEM_DEVELOPMENT	40	0.44996	1.567257	0.026971	0.199047
HP_DYSPHASIA	53	0.405909	1.567988	0.023529	0.199133
HP_ABNORMAL_HEART_VALVE_PHYSIOLOGY	291	0.328125	1.567314	0.01	0.19918
GOBP_FIBROBLAST_APOPTOTIC_PROCESS	20	0.518522	1.566891	0.046967	0.199296
GOBP_GRANULOCYTE_CHEMOTAXIS	120	0.416736	1.567997	0.049603	0.199321
GOBP_RESPONSE_TO_ACID_CHEMICAL	112	0.355139	1.566421	0.011561	0.199325
GOBP_RAC_PROTEIN_SIGNAL_TRANSDUCTION	38	0.440103	1.566682	0.036961	0.199367
GOBP_NEGATIVE_REGULATION_OF_WOUND_HEALING	69	0.442819	1.56649	0.024341	0.199461
GOBP_NEGATIVE_REGULATION_OF_PHOSPHORYLATION	373	0.308253	1.566175	0.002004	0.199483
GOBP_CELL_DEATH_IN_RESPONSE_TO_OXIDATIVE_STRESS	78	0.370849	1.565504	0.01	0.200185
HP_ABNORMALITY_OF_THE_METAPHYSIS	200	0.339738	1.564726	0.01165	0.200622
GOMF_PHOSPHATIDYLINOSITOL_3_KINASE_BINDING	32	0.497043	1.565017	0.049808	0.200646
HP_BONE_CYST	28	0.448647	1.564808	0.034261	0.2007
GOBP_ENDOTHELIUM_DEVELOPMENT	125	0.40679	1.564389	0.041257	0.20088
GOBP_POSITIVE_REGULATION_OF_NUCLEOCYTOPLASMIC_TRANSPORT	61	0.411661	1.56395	0.034413	0.201054

GOBP_CEREBRAL_CORTEX_CELL_MIGRATION	38	0.440328	1.563953	0.024482	0.201253
GOBP_REGULATION_OF_PHOSPHOLIPASE_ACTIVITY	68	0.425629	1.563442	0.039448	0.20128
GOCC_PLATELET_ALPHA_GRANULE_LUMEN	66	0.437561	1.562956	0.03112	0.201502
GOCC_EARLY_ENDOSOME	364	0.322322	1.562687	0.007968	0.201664
HP_THICKENED_SKIN	394	0.322661	1.562173	0.008016	0.202168
GOBP_MEMBRANE_BIOGENESIS	40	0.41937	1.561656	0.041494	0.202414
HP_ABNORMAL_UMBILICUS_MORPHOLOGY	253	0.364576	1.560704	0.026	0.202609
HP_DIMINISHED_MOTIVATION	76	0.380866	1.561309	0.022358	0.20265
HP_ABNORMAL_CRANIAL_NERVE_PHYSIOLOGY	282	0.315489	1.561003	<0.01	0.202662
HP_LACK_OF_SKIN_ELASTICITY	41	0.443762	1.560343	0.040856	0.202665
HP_PORENCEPHALIC_CYST	25	0.478151	1.560103	0.047431	0.202749
GOCC_AZUROPHIL_GRANULE	150	0.388375	1.56106	0.039063	0.202801
GOBP_CARDIAC_VENTRICLE_DEVELOPMENT	109	0.40241	1.560384	0.027944	0.202812
GOBP_REGULATION_OF_POSTSYNAPSE_ORGANIZATION	84	0.388695	1.559392	0.015564	0.203249
GOCC_ENDOLYSOSOME_MEMBRANE	15	0.562318	1.558012	0.035639	0.203251

GOBP_RESPONSE_TO_TEMPERATURE_STIMULUS	220	0.339769	1.558162	0.015209	0.203261
HP_TALL_STATURE	173	0.372696	1.559481	0.017751	0.203343
GOMF_GTPASE_BINDING	214	0.340735	1.558246	0.024096	0.203369
GOBP_CELL_CELL_SIGNALING_BY_WNT	496	0.318181	1.55882	0.013725	0.203394
HP_PROTRUDING_EAR	161	0.372986	1.558667	0.033333	0.203425
GOBP_DENDRITIC_SPINE_MORPHOGENESIS	59	0.409371	1.558917	0.022	0.203458
GOBP_PROTEIN_POLYMERIZATION	282	0.316243	1.558301	0.01581	0.203494
GOBP_POSITIVE_REGULATION_OF_OSTEOCLAST_DIFFERENTIATION	26	0.486535	1.557579	0.03252	0.203583
HP_ABNORMALITY_OF_THE_COLUMELLA	51	0.43643	1.556115	0.04931	0.204648
GOBP_ACTIVATION_OF_INNATE_IMMUNE_RESPONSE	139	0.401606	1.556236	0.02994	0.204672
HP_ABNORMALITY_OF_LIMB_EPIPHYSIS_MORPHOLOGY	98	0.389641	1.555904	0.039419	0.204735
GOBP_NEGATIVE_REGULATION_OF_PLATELET_ACTIVATION	17	0.556819	1.556508	0.037549	0.204766
GOBP_PLACENTA_BLOOD_VESSEL_DEVELOPMENT	28	0.465877	1.55624	0.033865	0.204863
HP_PSORIASIFORM_DERMATITIS	25	0.508814	1.55493	0.045175	0.205625
GOBP_NEGATIVE_REGULATION_OF_INTRACELLULAR_SIGNAL_TRANSDUCTION	466	0.297163	1.553738	0.008163	0.206356

HP_METATARSUS_ADDUCTUS	42	0.443264	1.55376	0.043738	0.206521
GOBP_SPHINGOLIPID_MEDIATED_SIGNALING_PATHWAY	15	0.538137	1.553307	0.042945	0.206717
GOBP_POSITIVE_REGULATION_OF_PLASMA_MEMBRANE_BOUNDED_CELL_PROJECTION_ASSEMBLY	102	0.361586	1.552297	0.020243	0.207725
GOBP_HEART_GROWTH	80	0.407692	1.551413	0.018036	0.20792
HP_DYSCALCULIA	21	0.495106	1.551489	0.039848	0.208007
GOBP_CRANIAL_NERVE_MORPHOGENESIS	24	0.511123	1.551638	0.045455	0.208203
GOBP_NEGATIVE_REGULATION_OF_CARDIAC_MUSCLE_TISSUE_GROWTH	23	0.499776	1.551022	0.033058	0.208256
GOBP_NEGATIVE_REGULATION_OF_CYTOKINE_PRODUCTION	271	0.361841	1.549929	0.041584	0.209305
HP_ABNORMALITY_OF_THE_CALCANEUS	27	0.471795	1.549968	0.035382	0.209455
GOBP_PRODUCTION_OF_MOLECULAR_MEDIATOR_OF_IMMUNE_RESPONSE	181	0.375481	1.549374	0.042424	0.209899
HP_ABNORMALITY_OF_THE_ABDOMINAL_WALL	432	0.34142	1.549192	0.016032	0.209942
GOBP_REGULATION_OF_CELL_DEVELOPMENT	462	0.320919	1.548452	0.007519	0.210352
GOCC_RECYCLING_ENDOSOME_MEMBRANE	83	0.382351	1.548086	0.01626	0.210401
GOBP_RESPONSE_TO_INTERLEUKIN_6	41	0.441583	1.548209	0.032854	0.210453
HP_APLASIA_HYPOPLASIA_OF_THE_FIBULA	25	0.492404	1.545086	0.04499	0.210828

GOBP_POSITIVE_REGULATION_OF_LEUKOCYTE_CHEMOTAXIS	90	0.409708	1.545112	0.044715	0.210998
GOBP_BONE_DEVELOPMENT	187	0.361957	1.545218	0.025391	0.211077
HP_ABNORMAL_AUDITORY_EVOKED_POTENTIALS	16	0.534685	1.545913	0.032454	0.211135
GOBP_PINOCYTOSIS	22	0.492481	1.546031	0.047431	0.211167
GOBP_REGULATION_OF_NEURON_PROJECTION_REGENERATION	28	0.465187	1.545585	0.041237	0.211185
GOBP_MYELOID_CELL_DEVELOPMENT	65	0.407834	1.547369	0.035573	0.211219
GOBP_NEGATIVE_REGULATION_OF_MYELOID_LEUKOCYTE_DIFFERENTIATION	47	0.431985	1.544598	0.047619	0.211273
HP_DECREASED_SKULL_OSSIFICATION	31	0.448793	1.546047	0.028986	0.211342
GOBP_CONNECTIVE_TISSUE_DEVELOPMENT	223	0.370456	1.547051	0.024242	0.211348
GOBP_NEGATIVE_REGULATION_OF_COLD_INDUCED_THERMOGENESIS	47	0.412551	1.545304	0.02834	0.211361
HP_LIMITATION_OF_JOINT_MOBILITY	357	0.32752	1.546128	0.014028	0.211632
HP_URETHRAL_OBSTRUCTION	49	0.43529	1.546498	0.044968	0.21171
GOBP_POSITIVE_REGULATION_OF_NITRIC_OXIDE_SYNTHASE_BIOSYNTHETIC_PROCESS	15	0.570457	1.543311	0.047525	0.211773
GOBP_HYALURONAN_METABOLIC_PROCESS	37	0.450354	1.543392	0.043197	0.21186
GOBP_GLOMERULAR_EPITHELIAL_CELL_DIFFERENTIATION	20	0.519559	1.543494	0.042194	0.211918

HP_ABNORMALITY_OF_CORNEAL_SIZE	146	0.362151	1.54371	0.020284	0.212027
HP_EXCESSIVE_WRINKLED_SKIN	33	0.445136	1.543533	0.028112	0.212053
HP_APLASIA_HYPOPLASIA_INVOLVING_THE_METACARPAL_BONES	113	0.379856	1.542703	0.031496	0.212377
HP_APLASIA_HYPOPLASIA_OF_THE_CLAVICLES	47	0.406021	1.541229	0.025862	0.212394
HP_CARDIOVASCULAR_CALCIFICATION	32	0.437081	1.541282	0.031983	0.212524
GOBP_ARTERY_DEVELOPMENT	86	0.422627	1.541628	0.044747	0.212611
GOBP_REGULATION_OF_BINDING	344	0.311058	1.540458	0.006048	0.212663
GOBP_MESODERMAL_CELL_DIFFERENTIATION	29	0.478656	1.541857	0.02621	0.212721
HP_ABNORMAL_FEMORAL_NECK_HEAD_MORPHOLOGY	156	0.36837	1.542306	0.030242	0.212736
GOBP_AMYLOID_PRECURSOR_PROTEIN_METABOLIC_PROCESS	69	0.368445	1.542131	0.017787	0.212763
GOBP_INFLAMMATORY_CELL_APOPTOTIC_PROCESS	19	0.493053	1.539365	0.027888	0.212779
GOBP_NEGATIVE_REGULATION_OF_LOCOMOTION	294	0.342379	1.541969	0.034951	0.212779
GOBP_SECRETORY_GRANULE_ORGANIZATION	32	0.424735	1.538868	0.018828	0.212861
GOBP_NEGATIVE_REGULATION_OF_PHOSPHORUS_METABOLIC_PROCESS	483	0.294886	1.539575	<0.01	0.212879
GOBP_POSITIVE_REGULATION_OF_PROTEIN_LOCALIZATION_TO_NUCLEUS	85	0.385822	1.537734	0.021654	0.212918

GOBP_ACTOMYOSIN_STRUCTURE_ORGANIZATION	182	0.367092	1.537845	0.027944	0.212973
GOBP_I_KAPPAB_KINASE_NF_KAPPAB_SIGNALING	274	0.326287	1.53755	0.018672	0.212991
GOMF_PEPTIDE_TRANSMEMBRANE_TRANSPORTER_ACTIVITY	35	0.451768	1.539593	0.027668	0.213049
GOBP_REGULATION_OF_NUCLEOCYTOPLASMIC_TRANSPORT	103	0.380013	1.539859	0.02834	0.213052
HP_ABNORMALITY_OF_SKULL_OSSIFICATION	37	0.427861	1.539993	0.03006	0.213053
GOBP_POSITIVE_REGULATION_OF_PHOSPHATIDYLINOSITOL_3_KINASE_SIGNALING	86	0.414865	1.539706	0.042596	0.213064
GOBP_REGULATION_OF_PEPTIDYL_THREONINE_PHOSPHORYLATION	46	0.418019	1.537289	0.027668	0.213123
HP_ABNORMAL_TRICUSPID_VALVE_PHYSIOLOGY	55	0.414028	1.538006	0.025641	0.213166
HP_STROKE	134	0.353561	1.538943	0.00996	0.21317
GOBP_POSITIVE_REGULATION_OF_ENDOTHELIAL_CELL_APOPTOTIC_PROCESS	17	0.57074	1.538147	0.044118	0.213176
GOMF_TRANSMEMBRANE_RECEPTOR_PROTEIN_KINASE_ACTIVITY	79	0.410625	1.536488	0.038536	0.213658
HP_PLATYSPONDYLY	108	0.382141	1.535851	0.033543	0.214098
GOBP_REGULATION_OF_BODY_FLUID_LEVELS	460	0.32645	1.535903	0.016162	0.214224
HP_OLIGODONTIA	46	0.43348	1.535473	0.04466	0.214386
GOMF_INSULIN_LIKE_GROWTH_FACTOR_BINDING	23	0.496853	1.535013	0.045726	0.214769

GOBP_CELL_DIFFERENTIATION_INVOLVED_IN_KIDNEY_DEVELOPMENT	57	0.430405	1.534719	0.03125	0.2148
GOMF_ATPASE_BINDING	83	0.370308	1.534164	0.029644	0.21514
HP_ABNORMALITY_OF_THE_METACARPAL_BONES	183	0.354362	1.534254	0.023622	0.215223
GOBP_ESTABLISHMENT_OF_CELL_POLARITY	135	0.359881	1.533504	0.029703	0.21541
GOBP_REGULATION_OF_HEART_GROWTH	61	0.410021	1.533211	0.019802	0.215437
GOBP_POSITIVE_REGULATION_OF_RHO_PROTEIN_SIGNAL_TRANSDUCTION	32	0.471727	1.532925	0.047438	0.215438
HP_COXA_VALGA	82	0.399745	1.533303	0.037475	0.215494
GOCC_GAP_JUNCTION	29	0.466566	1.53258	0.049281	0.215715
GOBP_REGULATION_OF_ORGAN_GROWTH	85	0.396289	1.521307	0.024096	0.215962
HP_ADDUCTED_THUMB	82	0.372674	1.52316	0.025591	0.215978
HP_HYPOPLASIA_OF_TEETH	79	0.387938	1.521331	0.035417	0.2161
HP_LOWER_EXTREMITY_JOINT_DISLOCATION	262	0.346186	1.524744	0.027344	0.216146
GOBP_RESPONSE_TO_INCREASED_OXYGEN_LEVELS	29	0.438612	1.52519	0.030675	0.216146
GOBP_NEGATIVE_REGULATION_OF_NEURON_PROJECTION_DEVELOPMENT	125	0.340174	1.52073	0.027668	0.216162
GOBP_REGULATION_OF_OXIDOREDUCTASE_ACTIVITY	95	0.341945	1.523306	0.011834	0.216168

HP_DENTAL_MALOCCLUSION	109	0.367955	1.519749	0.026531	0.216236
GOBP_POSITIVE_REGULATION_OF_PEPTIDASE_ACTIVITY	187	0.334847	1.519224	0.020492	0.216238
GOBP_POSITIVE_REGULATION_OF_MAPK_CASCADE	497	0.31423	1.521348	0.02	0.21624
GOMF_PROTEIN_TYROSINE_SERINE_THREONINE_PHOSPHATASE_ACTIVITY	41	0.386769	1.524401	0.021611	0.216256
HP_ORTHOSTATIC_HYPOTENSION	39	0.418269	1.524503	0.037109	0.216315
HP_METAPHYSEAL_IRREGULARITY	43	0.395543	1.522767	0.032075	0.216321
GOBP_NEGATIVE_REGULATION_OF_VASCULATURE_DEVELOPMENT	93	0.393339	1.530549	0.04175	0.216331
HP_ANONYCHIA	60	0.413558	1.523323	0.03719	0.216335
GOBP_NEURON_PROJECTION_GUIDANCE	272	0.350431	1.525441	0.029126	0.216337
HP_CORNEAL_DYSTROPHY	29	0.44929	1.531537	0.040816	0.216355
GOMF_GTPASE_ACTIVITY	294	0.315206	1.519404	0.006173	0.216362
GOBP_MEMBRANE_FUSION	160	0.328016	1.527839	0.018711	0.216369
GOBP_ORGAN_GROWTH	144	0.376553	1.519264	0.025292	0.216369
GOBP_DETECTION_OF_STIMULUS_INVOLVED_IN_SENSORY_PERCEPTION_OF_PAIN	24	0.483164	1.521377	0.046784	0.216372
GOCC_FLEMMING_BODY	34	0.45659	1.519934	0.049407	0.216375

GOBP_POSITIVE_REGULATION_OF_GLYCOLYTIC_PROCESS	23	0.489868	1.523421	0.039448	0.21639
GOBP_NEURON_PROJECTION_EXTENSION	161	0.352287	1.530783	0.024436	0.216403
HP_PROXIMAL_AMYOTROPHY	39	0.434384	1.523837	0.041096	0.216437
GOBP_REGULATION_OF_NEURON_PROJECTION_DEVELOPMENT	414	0.313203	1.528184	0.017045	0.216476
GOBP_RECEPTOR_MEDIATED_ENDOCYTOSIS	261	0.34145	1.523494	0.018219	0.216482
HP_KERATOSIS_PILARIS	20	0.522779	1.531735	0.039683	0.216493
HP_FLARED_ILIAC_WINGS	21	0.503088	1.525464	0.042084	0.216499
GOBP_NEGATIVE_REGULATION_OF_BINDING	151	0.319796	1.521409	0.018036	0.216512
GOCC_CORTICAL_ACTIN_CYTOSKELETON	75	0.389962	1.527182	0.038618	0.216533
GOBP_REGULATION_OF_PROTEIN_CONTAINING_COMPLEX_DISASSEMBLY	115	0.361431	1.52205	0.032258	0.216556
GOBP_CELLULAR_RESPONSE_TO_RADIATION	179	0.336886	1.529626	0.01833	0.216569
GOBP_LABYRINTHINE_LAYER_DEVELOPMENT	42	0.422252	1.525562	0.046185	0.216577
GOBP_NEGATIVE_REGULATION_OF_PEPTIDYL_TYROSINE_PHOSPHORYLATION	52	0.386703	1.527549	0.036145	0.216597
GOBP_RHO_PROTEIN_SIGNAL_TRANSDUCTION	131	0.373341	1.527419	0.040385	0.216598
GOBP_CELLULAR_RESPONSE_TO_VIRUS	60	0.390476	1.520282	0.043912	0.216599

HP_ABNORMALITY_OF_THE_ILIUM	88	0.363392	1.521697	0.026415	0.216638
GOBP_REGULATION_OF_RAS_PROTEIN_SIGNAL_TRANSDUCTION	187	0.355126	1.528885	0.028846	0.216663
HP_APLASIA_HYPOPLASIA_OF_THE_HUMERUS	25	0.471972	1.523494	0.036437	0.216665
HP_ABNORMAL_STERNUM_MORPHOLOGY	372	0.334932	1.52874	0.02994	0.216674
GOBP_RUFFLE_ASSEMBLY	41	0.412382	1.521419	0.039419	0.216686
HP_CEREBRAL_HEMORRHAGE	59	0.392393	1.52594	0.022403	0.216692
GOBP_MODULATION_BY_HOST_OF_VIRAL_PROCESS	29	0.433917	1.526077	0.041068	0.216695
GOBP_RESPONSE_TO_OXYGEN_LEVELS	369	0.315278	1.529405	0.006173	0.216698
GOBP_TUMOR_NECROSIS_FACTOR_MEDIATED_SIGNALING_PATHWAY	166	0.382817	1.52925	0.039832	0.216715
GOBP_SIGNAL_TRANSDUCTION_IN_RESPONSE_TO_DNA_DAMAGE	125	0.374378	1.526186	0.042254	0.216739
GOCC_ENDOCYTIC_VESICLE_MEMBRANE	157	0.374031	1.528385	0.043738	0.216777
HP_METAPHYSEAL_WIDENING	80	0.383139	1.530937	0.043222	0.216778
GOBP_CARDIAC_VENTRICLE_MORPHOGENESIS	66	0.425124	1.526422	0.036217	0.21678
GOBP_VASOCONSTRICTION	76	0.402837	1.528494	0.02863	0.216823
GOBP_POSITIVE_REGULATION_OF_MAP_KINASE_ACTIVITY	225	0.321268	1.529712	0.005941	0.216831

HP_VASCULAR_SKIN_ABNORMALITY	482	0.305265	1.529019	0.006012	0.216832
GOBP_ANATOMICAL_STRUCTURE_REGRESSION	16	0.529192	1.517968	0.045872	0.217576
HP_ABNORMAL_FORM_OF_THE_VERTEBRAL_BODIES	281	0.332812	1.516774	0.019608	0.218209
HP_ABNORMAL_METACARPAL_MORPHOLOGY	145	0.360208	1.516982	0.035503	0.218308
HP_HYPERPIGMENTATION_OF_THE_SKIN	219	0.329156	1.516137	0.012048	0.218512
GOBP_MYELOID_CELL_DIFFERENTIATION	378	0.322664	1.515569	0.014831	0.218785
GOBP_MORPHOGENESIS_OF_A_BRANCHING_STRUCTURE	182	0.362207	1.513966	0.023952	0.220217
HP_ABNORMAL_DELIVERY	70	0.402491	1.513448	0.023669	0.220221
HP_ABNORMALITY_OF_THE_PHALANGES_OF_THE_TOES	118	0.372061	1.512853	0.030181	0.220253
GOBP_RESPONSE_TO_FIBROBLAST_GROWTH_FACTOR	135	0.343908	1.51299	0.021611	0.220256
HP_MEMORY_IMPAIRMENT	119	0.336525	1.513997	0.013834	0.220363
GOBP_PROTEIN_DEPOLYMERIZATION	107	0.383496	1.51356	0.034836	0.220439
GOBP_HEPARAN_SULFATE_PROTEOGLYCAN_METABOLIC_PROCESS	31	0.449077	1.513647	0.049713	0.220482
GOBP_CELLULAR_SENESCENCE	64	0.395906	1.512362	0.025948	0.22073
HP_ABNORMAL_VASCULAR_PHYSIOLOGY	239	0.325765	1.512174	0.028	0.220802

HP_RECURRENT_URINARY_TRACT_INFECTIONS	112	0.368551	1.508745	0.043121	0.221033
GOBP_BONE_REMODELING	88	0.388666	1.509334	0.040777	0.22111
GOBP_REGULATION_OF_TUBE_SIZE	122	0.372236	1.508998	0.03617	0.221211
GOBP_FOREBRAIN_CELL_MIGRATION	51	0.408287	1.509469	0.035019	0.221298
GOBP_REGULATION_OF_ATP_METABOLIC_PROCESS	107	0.370732	1.511515	0.022495	0.221352
GOMF_GLUTAMATE_RECEPTOR_BINDING	40	0.419143	1.509013	0.041833	0.221362
HP_ABNORMAL_SYSTEMIC_ARTERIAL_MORPHOLOGY	423	0.310869	1.511374	0.016293	0.22138
HP_ABNORMAL_NASOLACRIMAL_SYSTEM_MORPHOLOGY	57	0.403249	1.509573	0.041096	0.221492
GOBP_POSITIVE_REGULATION_OF_DENDRITIC_SPINE_DEVELOPMENT	41	0.425068	1.507312	0.047431	0.221498
GOBP_PEPTIDYL_TYROSINE_DEPHOSPHORYLATION	99	0.342699	1.511089	0.021505	0.221572
HP_COLORECTAL_POLYPOSIS	23	0.480644	1.507379	0.046185	0.221579
GOBP_PHOSPHATIDYLINOSITOL_3_KINASE_SIGNALING	146	0.362635	1.507651	0.031185	0.221584
HP_GASTROINTESTINAL_OBSTRUCTION	59	0.367082	1.509634	0.039683	0.221597
HP_DIFFICULTY_RUNNING	37	0.405386	1.509737	0.020964	0.221632
GOBP_REGULATION_OF_OSSIFICATION	106	0.372076	1.506794	0.03	0.22164

GOMF_PROTEIN_TYROSINE_PHOSPHATASE_ACTIVITY	97	0.339621	1.506865	0.025316	0.221707
GOBP_REGULATION_OF_MYELOID_LEUKOCYTE_DIFFERENTIATION	113	0.387898	1.509912	0.04277	0.221744
GOBP_AMYLOID_PRECURSOR_PROTEIN_CATABOLIC_PROCESS	53	0.380024	1.50999	0.023438	0.221819
GOMF_SH3_DOMAIN_BINDING	127	0.355569	1.507949	0.036145	0.221887
GOBP_NEGATIVE_REGULATION_OF_CELLULAR_RESPONSE_TO_GROWTH_FACTOR_STIMULUS	93	0.388569	1.510553	0.033203	0.221942
HP_NEOPLASM_OF_THE_SKIN	177	0.323509	1.510005	0.018145	0.221969
GOBP_BARBED_END_ACTIN_FILAMENT_CAPPING	25	0.466249	1.510122	0.048421	0.221984
GOBP_REGULATION_OF_ERYTHROCYTE_DIFFERENTIATION	44	0.407448	1.505359	0.044534	0.22325
GOBP_REGULATION_OF_REACTIVE_OXYGEN_SPECIES_BIOSYNTHETIC_PROCESS	84	0.362372	1.50501	0.017928	0.223558
GOMF_METALLOPEPTIDASE_ACTIVITY	178	0.333564	1.504398	0.019881	0.223843
GOBP_ARTERY_MORPHOGENESIS	61	0.430291	1.50418	0.049904	0.223954
GOBP_NEURON_APOPTOTIC_PROCESS	220	0.316168	1.502244	0.007874	0.223974
HP_ABNORMALITY_OF_EARLOBE	81	0.395504	1.502483	0.043564	0.223993
HP_OPEN_BITE	48	0.408343	1.503974	0.044625	0.224047
GOBP_NEGATIVE_REGULATION_OF_RECEPTOR_MEDIATED_ENDOCYTOSIS	28	0.450567	1.502531	0.035857	0.224092

GOCC_GLUTAMATERGIC_SYNAPSE	301	0.330734	1.502861	0.024145	0.224156
GOBP_REGULATION_OF_PHOSPHOPROTEIN_PHOSPHATASE_ACTIVITY	113	0.331757	1.50296	0.022222	0.224208
HP_ABNORMAL_SCALP_MORPHOLOGY	322	0.317303	1.503257	0.024194	0.224335
GOBP_CELLULAR_RESPONSE_TO_DRUG	61	0.382625	1.502988	0.024194	0.224349
HP_SARCOMA	164	0.332855	1.502996	0.031809	0.224511
GOBP_DEVELOPMENTAL_GROWTH_INVOLVED_IN_MORPHOGENESIS	220	0.334132	1.500466	0.020873	0.225141
GOBP_REGULATION_OF_TISSUE_REMODELING	73	0.398557	1.500485	0.039293	0.225295
GOBP_NEGATIVE_REGULATION_OF_INTRINSIC_APOPTOTIC_SIGNALING_PATHWAY	90	0.370568	1.500163	0.043137	0.225408
HP_DISPROPORTIONATE_SHORT_LIMB_SHORT_STATURE	85	0.37251	1.498352	0.038697	0.226482
GOMF_PHOSPHATIDYLINOSITOL_PHOSPHATE_BINDING	163	0.324071	1.49883	0.021526	0.226528
GOBP_PROTEIN_DEPHOSPHORYLATION	311	0.298499	1.498681	0.010267	0.226539
GOBP_POSITIVE_REGULATION_OF_CELL_DEVELOPMENT	280	0.314912	1.498355	0.009416	0.226652
HP_ABNORMAL_UVEA_MORPHOLOGY	468	0.298423	1.498437	0.008097	0.22671
GOBP_NEGATIVE_REGULATION_OF_RESPONSE_TO_EXTERNAL_STIMULUS	339	0.335227	1.497707	0.040816	0.227012
HP_MISALIGNMENT_OF_TEETH	284	0.34497	1.497795	0.02988	0.227065

HP_DISPROPORTIONATE_SHORT_STATURE	111	0.35569	1.496149	0.034	0.228064
HP_ABNORMALITY_OF_THE_SPINAL_CORD	280	0.343225	1.495594	0.042	0.228399
GOBP_REGULATION_OF_SPROUTING_ANGIOGENESIS	34	0.433446	1.495381	0.048356	0.228515
GOBP_RECEPTOR_RECYCLING	29	0.418071	1.49444	0.048682	0.22903
HP_ABNORMALLY_LARGE_GLOBE	38	0.433154	1.493672	0.044355	0.229388
GOCC_PLASMA_MEMBRANE_SIGNALING_RECEPTOR_COMPLEX	181	0.359252	1.493428	0.033663	0.229544
GOBP_POSITIVE_CHEMOTAXIS	60	0.411049	1.493814	0.043568	0.229713
HP_ABNORMALITY_IRIS_MORPHOLOGY	363	0.310113	1.492564	0.020161	0.229796
GOBP_POSITIVE_REGULATION_OF_CELLULAR_PROTEIN_CATABOLIC_PROCESS	146	0.323544	1.493019	0.022727	0.229882
HP_SPINA_BIFIDA_OCCULTA	69	0.397936	1.492575	0.043738	0.229954
GOBP_EPITHELIAL_CELL_DEVELOPMENT	201	0.3225	1.492186	0.020367	0.230116
HP_ABNORMALITY_OF_THE_BLADDER	412	0.314302	1.491629	0.026316	0.230154
HP_PULMONARY_ARTERY_STENOSIS	57	0.37154	1.490877	0.034979	0.230681
GOBP_REGULATION_OF_DNA_BINDING	114	0.348917	1.490159	0.029167	0.231465
GOBP_POSITIVE_REGULATION_OF_CELL_PROJECTION_ORGANIZATION	331	0.310721	1.489886	0.021359	0.231524

GOBP_REGULATION_OF_TOLL_LIKE_RECEPTOR_SIGNALING_PATHWAY	70	0.39133	1.488621	0.04918	0.232403
GOBP_JNK_CASCADE	187	0.311877	1.488725	0.01833	0.232599
GOBP_REGULATION_OF_SYNAPSE_STRUCTURE_OR_ACTIVITY	208	0.342512	1.486848	0.021739	0.232739
HP_ABNORMAL_AORTIC_MORPHOLOGY	309	0.324176	1.487121	0.026477	0.232872
GOBP_ORGANELLE_FUSION	140	0.324422	1.487973	0.032389	0.232911
GOBP_EXOCYTIC_PROCESS	76	0.362932	1.486957	0.029412	0.232911
GOCC_CLATHRIN_COATED_VESICLE	186	0.336058	1.48731	0.03012	0.233118
HP_PALMOPLANTAR_KERATODERMA	146	0.36631	1.48718	0.035433	0.233142
GOMF_GUANYL_NUCLEOTIDE_BINDING	363	0.296168	1.487388	0.006048	0.233203
GOBP_REGULATION_OF_NUCLEOTIDE_METABOLIC_PROCESS	111	0.354219	1.484351	0.026157	0.23422
HP_ABNORMAL_MORPHOLOGY_OF_THE_RADIUS	53	0.388092	1.484995	0.037113	0.234235
GOBP_REGULATION_OF_CELL_DIVISION	159	0.335915	1.484378	0.02935	0.234356
GOBP_ACTIN_CYTOSKELETON_REORGANIZATION	101	0.367955	1.484475	0.049801	0.234395
GOBP_RESPONSE_TO_PROGESTERONE	43	0.388775	1.483476	0.02439	0.234544
HP_ABNORMALITY_OF_THE_UVULA	153	0.370861	1.483082	0.047525	0.234868

HP_KYPHOSCOLIOSIS	164	0.33106	1.482906	0.025097	0.234919
GOCC_MEMBRANE_COAT	90	0.373782	1.482743	0.048387	0.234969
GOBP_POSITIVE_REGULATION_OF_NEUROGENESIS	210	0.322047	1.481126	0.028409	0.236141
GOBP_CELL_CELL_JUNCTION_ASSEMBLY	140	0.341374	1.480304	0.028398	0.236718
GOBP_REGULATION_OF_FAT_CELL_DIFFERENTIATION	122	0.349905	1.477784	0.017893	0.239346
GOBP_HEMATOPOIETIC_PROGENITOR_CELL_DIFFERENTIATION	155	0.346223	1.477853	0.030801	0.239429
GOBP_RESPONSE_TO_OXIDATIVE_STRESS	419	0.292694	1.477203	0.015267	0.239733
HP_UNDERDEVELOPED_NASAL_ALAE	78	0.378693	1.474366	0.038229	0.240108
GOBP_CANONICAL_WNT_SIGNALING_PATHWAY	319	0.313324	1.476538	0.019493	0.240131
HP_LOW_POSTERIOR_HAIRLINE	92	0.368286	1.476564	0.040856	0.240263
GOBP_NEGATIVE_REGULATION_OF_MYELOID_CELL_DIFFERENTIATION	77	0.368908	1.473968	0.032	0.240282
GOMF_TRANSMEMBRANE_RECEPTOR_PROTEIN_TYROSINE_KINASE_ACTIVITY	61	0.400893	1.474508	0.045977	0.24039
GOBP_POSITIVE_REGULATION_OF_APOPTOTIC_SIGNALING_PATHWAY	115	0.345489	1.473986	0.023061	0.240422
GOBP_STEM_CELL_DIFFERENTIATION	243	0.324416	1.473198	0.031873	0.240504
GOBP_NEGATIVE_REGULATION_OF_NEURON_APOPTOTIC_PROCESS	129	0.328908	1.472447	0.017717	0.241013

GOBP_REGULATION_OF_RECEPTOR_SIGNALING_PATHWAY_VIA_STAT	83	0.356669	1.471651	0.041257	0.2416
HP_MIGRAINE	97	0.332035	1.471754	0.018109	0.241636
GOBP_POSITIVE_REGULATION_OF_PROTEIN_TYROSINE_KINASE_ACTIVITY	60	0.373697	1.471007	0.0375	0.241784
GOBP_REGULATION_OF_OXIDATIVE_STRESS_INDUCED_CELL_DEATH	58	0.367692	1.471008	0.029703	0.241952
GOBP_REGULATION_OF_JNK_CASCADE	127	0.323702	1.469063	0.026694	0.242162
GOBP_RESPONSE_TO_HYDROGEN_PEROXIDE	127	0.328249	1.469081	0.022044	0.242299
HP_OSTEOMYELITIS	50	0.389065	1.469878	0.042169	0.24232
GOBP_RESPONSE_TO_PEPTIDE	489	0.292659	1.469977	0.014085	0.242362
HP_ABNORMALITY_OF_HAIR_TEXTURE	151	0.341109	1.470095	0.045098	0.242373
GOMF_PROTEIN_KINASE_C_BINDING	54	0.373518	1.469227	0.034413	0.242408
GOBP_SKELETAL_SYSTEM_DEVELOPMENT	461	0.327419	1.470278	0.042389	0.242459
GOBP_REGULATION_OF_PROTEIN_DEPHOSPHORYLATION	136	0.317878	1.469419	0.026	0.242478
GOBP_POSITIVE_REGULATION_OF_CELL_MORPHOGENESIS_INVOLVED_IN_DIFFERENTIATION	77	0.359544	1.469232	0.036609	0.242569
HP_MIDFACE_RETRUSION	251	0.332819	1.468266	0.038685	0.242633
GOMF_UBIQUITIN_LIKE_PROTEIN_LIGASE_BINDING	304	0.318023	1.467746	0.023622	0.242832

GOBP_POSITIVE_REGULATION_OF_CELL_GROWTH	147	0.316241	1.465686	0.019084	0.243192
GOBP_REGULATION_OF_RECEPTOR_MEDIATED_ENDOCYTOSIS	99	0.345686	1.465372	0.020492	0.243468
GOBP_POSITIVE_REGULATION_OF_JUN_KINASE_ACTIVITY	67	0.373554	1.46514	0.044625	0.243612
GOCC_RECYCLING_ENDOSOME	179	0.310991	1.461464	0.030303	0.24392
GOBP_ZINC_ION_TRANSPORT	27	0.452271	1.464411	0.042885	0.24395
HP_LIMB_JOINT_CONTRACTURE	339	0.304647	1.462207	0.023256	0.244198
HP_APLASIA_HYPOPLASIA_INVOLVING_THE_NOSE	93	0.363698	1.463041	0.042718	0.2442
HP_CRANIOSYNOSTOSIS	147	0.345299	1.463903	0.049383	0.244208
GOBP_REGULATION_OF_MORPHOGENESIS_OF_AN_EPITHELIUM	60	0.387897	1.463052	0.035857	0.244351
HP_LONG_FINGERS	229	0.338787	1.460627	0.04829	0.24441
GOBP_GLIOGENESIS	270	0.315754	1.46332	0.030426	0.244481
GOBP_REGULATION_OF_OSTEOBLAST_DIFFERENTIATION	111	0.364112	1.459892	0.02924	0.244605
HP_HERNIA	459	0.320317	1.459507	0.043738	0.244996
GOBP_CELL_GROWTH	445	0.286264	1.458696	0.011673	0.245483
HP_SKELETAL_DYSPLASIA	168	0.323531	1.45791	0.031683	0.245923

GOBP_INOSITOL_LIPID_MEDIATED_SIGNALING	186	0.339309	1.457198	0.036511	0.246087
GOCC_COATED_VESICLE_MEMBRANE	175	0.337207	1.457423	0.038934	0.246096
GOBP_RESPONSE_TO_REACTIVE_OXYGEN_SPECIES	208	0.300029	1.45685	0.00996	0.246379
GOCC_SPECIFIC_GRANULE_LUMEN	61	0.39429	1.456554	0.049116	0.246647
GOBP_DEVELOPMENTAL_CELL_GROWTH	210	0.319956	1.455641	0.030303	0.246782
GOBP_NEGATIVE_REGULATION_OF_REACTIVE_OXYGEN_SPECIES_METABOLIC_PROCESS	53	0.359064	1.455145	0.025692	0.246849
GOBP_PALLIUM_DEVELOPMENT	147	0.343642	1.454511	0.040541	0.246881
GOCC_COATED_VESICLE	284	0.319974	1.454254	0.041152	0.246909
GOBP_POSITIVE_REGULATION_OF_NEURON_APOPTOTIC_PROCESS	51	0.383068	1.455205	0.03861	0.246912
GOBP_CELLULAR_RESPONSE_TO_RETINOIC_ACID	62	0.357822	1.455247	0.034483	0.247024
GOBP_NEGATIVE_REGULATION_OF_CELL_GROWTH	177	0.311198	1.456174	0.013972	0.247029
GOBP_REGULATION_OF_GLIAL_CELL_DIFFERENTIATION	63	0.385589	1.455799	0.043388	0.247052
HP_APLASIA_HYPOPLASIA_OF_THE_EYEBROW	153	0.326396	1.453662	0.036893	0.247441
HP_GENU_VARUM	47	0.391732	1.452574	0.043564	0.248169
GOCC_EXCITATORY_SYNAPSE	45	0.427421	1.452307	0.045098	0.24821

GOMF_MOLECULAR_ADAPTOR_ACTIVITY	312	0.286803	1.45164	0.016495	0.248635
GOBP_CELLULAR_RESPONSE_TO_UV	85	0.344669	1.451471	0.047131	0.248712
HP_APLASIA_HYPOPLASIA_INVOLVING_THE_VERTEBRAL_COLUMN	61	0.359504	1.45125	0.035928	0.248856
GOBP_NUCLEOSIDE_DIPHOSPHATE_METABOLIC_PROCESS	149	0.332074	1.450509	0.02521	0.249219
HP_MORPHOLOGICAL_ABNORMALITY_OF_THE_INNER_EAR	58	0.387139	1.450592	0.042636	0.249272
HP_PECTUS_CARINATUM	135	0.334358	1.450291	0.046371	0.249365

Table S10. GSEA results between high-risk and low-risk phenotypes by using C2 reference gene set.

NAME	SIZE	ES	NES	NOM p-val	FDR q-val
GRUETZMANN_PANCREATIC_CANCER_UP	349	0.578222	2.314649	<0.01	0.00184
REACTOME_SIGNALING_BY_MET	79	0.637542	2.341011	<0.01	0.001898
REACTOME_MET_PROMOTES_CELL_MOTILITY	41	0.764297	2.285749	<0.01	0.002796
PASINI_SUZ12_TARGETS_DN	304	0.598101	2.293341	<0.01	0.003049
CHARAFE_BREAST_CANCER_LUMINAL_VS_BASAL_DN	438	0.621259	2.279881	<0.01	0.003206
HUANG_DASATINIB_SENSITIVITY_UP	78	0.760332	2.234858	<0.01	0.003735
REACTOME_EPH_EPHRIN_SIGNALING	92	0.597703	2.238258	0.001988	0.004002
SIMBULAN_UV_RESPONSE_IMMORTALIZED_DN	31	0.775815	2.250837	<0.01	0.00405
MIYAGAWA_TARGETS_OF_EWSR1_ETS_FUSIONS_DN	218	0.583202	2.228499	<0.01	0.004188
SENESE_HDAC3_TARGETS_UP	467	0.53943	2.225709	<0.01	0.004211
RICKMAN_TUMOR_DIFFERENTIATED_WELL_VS_POORLY_DN	370	0.592403	2.238553	<0.01	0.00431
REACTOME_EPHB_MEDIATED_FORWARD_SIGNALING	42	0.694891	2.251598	<0.01	0.0045
SENESE_HDAC1_TARGETS_UP	423	0.555727	2.239491	<0.01	0.004575

BROWNE_HCMV_INFECTION_2HR_DN	46	0.668938	2.241025	<0.01	0.004889
BURTON_ADIPOGENESIS_7	48	0.670914	2.25775	<0.01	0.004894
VANTVEER_BREAST_CANCER_ESR1_DN	218	0.583192	2.26707	<0.01	0.005181
SENESE_HDAC2_TARGETS_UP	108	0.62258	2.204348	<0.01	0.005762
WATANABE_RECTAL_CANCER_RADIOTHERAPY_RESPONSIVE_DN	91	0.584856	2.197436	<0.01	0.006019
TURASHVILI_BREAST_DUCTAL_CARCINOMA_VS_LOBULAR_NORMAL_UP	72	0.680738	2.192356	<0.01	0.006051
REACTOME_SIGNALING_BY_PDGF	58	0.679326	2.188835	<0.01	0.006189
FOSTER_TOLERANT_MACROPHAGE_DN	395	0.504227	2.184871	<0.01	0.006633
REN_ALVEOLAR_RHABDOMYOSARCOMA_DN	404	0.605956	2.181101	0.002101	0.006735
PID_AVB3_INTEGRIN_PATHWAY	74	0.665953	2.177716	<0.01	0.007206
WIEDERSCHAIN_TARGETS_OF_BMI1_AND_PCGF2	57	0.671214	2.173153	<0.01	0.00754
REACTOME_COLLAGEN_FORMATION	90	0.674032	2.165583	0.00198	0.007714
REACTOME_RHOJ_GTPASE_CYCLE	55	0.591823	2.165835	<0.01	0.007938
PEDERSEN_TARGETS_OF_611CTF_ISOFORM_OF_ERBB2	72	0.654841	2.147138	<0.01	0.009344

HERNANDEZ_MITOTIC_ARREST_BY_DOCETAXEL_1_DN	35	0.669838	2.147883	<0.01	0.009481
REACTOME_PARASITE_INFECTION	59	0.610893	2.122485	<0.01	0.009727
WP_FOCAL_ADHESION	196	0.544681	2.119772	<0.01	0.009751
REACTOME_FLT3_SIGNALING_IN_DISEASE	28	0.658193	2.148431	<0.01	0.009753
KEGG_RENAL_CELL_CARCINOMA	70	0.536237	2.120786	<0.01	0.009838
REACTOME_ASSEMBLY_OF_COLLAGEN_FIBRILS_AND_OTHER_MULTIMERIC_STRUCTURES	61	0.729115	2.122759	<0.01	0.009869
VECCHI_GASTRIC_CANCER_ADVANCED_VS_EARLY_UP	165	0.706414	2.138521	<0.01	0.009924
MCBRYAN_PUBERTAL_TGFB1_TARGETS_UP	166	0.540249	2.122768	<0.01	0.010088
WP_HEPATITIS_C_AND_HEPATOCELLULAR_CARCINOMA	49	0.606513	2.142578	<0.01	0.010161
GERHOLD_ADIPOGENESIS_DN	60	0.618155	2.138578	<0.01	0.010224
JI_RESPONSE_TO_FSH_DN	52	0.661151	2.123095	<0.01	0.010263
KEGG_FOCAL_ADHESION	197	0.564877	2.112672	<0.01	0.010284
PID_PDGFRB_PATHWAY	129	0.547087	2.129767	<0.01	0.010288
RIGGI_EWING_SARCOMA_PROGENITOR_DN	183	0.578918	2.116459	<0.01	0.010352

HOSHIDA_LIVER_CANCER_SUBCLASS_S1	230	0.588875	2.113549	<0.01	0.010383
SENESE_HDAC1_AND_HDAC2_TARGETS_UP	225	0.535365	2.139716	<0.01	0.010414
RICKMAN_TUMOR_DIFFERENTIATED_MODERATELY_VS_POORLY_UP	120	0.504649	2.130158	<0.01	0.010415
IZADPANAH_STEM_CELL_ADIPOSE_VS_BONE_UP	124	0.517265	2.114162	<0.01	0.01047
NAKAMURA_TUMOR_ZONE_PERIPHERAL_VS_CENTRAL_UP	271	0.561274	2.123188	<0.01	0.010502
SIG_REGULATION_OF_THE_ACTIN_CYTOSKELETON_BY_RHO_GTPASES	35	0.653428	2.130398	<0.01	0.010522
RIEGE_DELTANP63_DIRECT_TARGETS_UP	134	0.577006	2.114754	<0.01	0.010625
KIM_WT1_TARGETS_UP	214	0.541863	2.126793	0.002041	0.010643
REACTOME_RHOF_GTPASE_CYCLE	42	0.645435	2.124832	<0.01	0.010648
KEGG_SMALL_CELL_LUNG_CANCER	84	0.540702	2.132999	<0.01	0.010668
WOOD_EBV_EBNA1_TARGETS_DN	47	0.605147	2.107371	0.002105	0.010705
PID_INTEGRIN_A4B1_PATHWAY	33	0.65907	2.123203	0.002092	0.010721
AZARE_NEOPLASTIC_TRANSFORMATION_BY_STAT3_UP	122	0.567369	2.105615	<0.01	0.010758
ROZANOV_MMP14_TARGETS_SUBSET	33	0.801106	2.131051	0.002053	0.010771

REACTOME_NON_INTEGRIN_MEMBRANE_ECM_INTERACTIONS	59	0.720486	2.108218	0.002016	0.010807
PID_S1P_S1P3_PATHWAY	29	0.687996	2.100397	<0.01	0.010879
DANG_REGULATED_BY_MYC_DN	242	0.511479	2.099018	0.002008	0.010906
TURASHVILI_BREAST_DUCTAL_CARCINOMA_VS_DUCTAL_NORMAL_UP	47	0.713606	2.096314	<0.01	0.01093
RUTELLA_RESPONSE_TO_CSF2RB_AND_IL4_UP	332	0.468881	2.108657	<0.01	0.010956
WP_PRIMARY_FOCAL_SEGMENTAL_GLOMERULOSCLEROSIS_FSGS	71	0.588805	2.093685	<0.01	0.010989
BRUECKNER_TARGETS_OF_MIRLET7A3_DN	74	0.62283	2.100979	<0.01	0.010992
PID_INTEGRIN1_PATHWAY	66	0.714658	2.096754	<0.01	0.011034
JECHLINGER_EPITHELIAL_TO_MESENCHYMAL_TRANSITION_UP	66	0.663537	2.094325	<0.01	0.01106
PID_ERBB1_RECEPTOR_PROXIMAL_PATHWAY	35	0.651223	2.101707	<0.01	0.01111
CHIARADONNA_NEOPLASTIC_TRANSFORMATION_CDC25_UP	121	0.535395	2.087534	<0.01	0.011221
SHIN_B_CELL_LYMPHOMA_CLUSTER_8	36	0.671106	2.102323	0.002045	0.011252
PID_LYMPH_ANGIOGENESIS_PATHWAY	25	0.731627	2.088821	<0.01	0.011307
CROMER_TUMORIGENESIS_UP	57	0.709987	2.087958	0.002062	0.011346

RUTELLA_RESPONSE_TO_HGF_UP	414	0.498559	2.088988	<0.01	0.011422
REACTOME_SIGNALING_BY_EGFR	50	0.596754	2.089352	<0.01	0.011444
REACTOME_MET_ACTIVATES_PTK2_SIGNALING	30	0.772527	2.076917	0.004	0.011678
WANG_SMARCE1_TARGETS_UP	281	0.557606	2.080678	<0.01	0.011692
RODRIGUES_THYROID_CARCINOMA_DN	76	0.56143	2.079202	<0.01	0.011786
AMIT_SERUM_RESPONSE_240_MCF10A	54	0.627265	2.076978	<0.01	0.01182
PID_INTEGRIN3_PATHWAY	42	0.700173	2.074677	<0.01	0.011825
APRELIKOVA_BRCA1_TARGETS	45	0.600654	2.080735	<0.01	0.011842
REACTOME_RHO_GTPASES_ACTIVATE_WASPS_AND_WAVES	36	0.636046	2.0829	<0.01	0.011844
GARGALOVIC_RESPONSE_TO_OXIDIZED_PHOSPHOLIPIDS_BLUE_UP	130	0.524382	2.077675	<0.01	0.01185
VERRECCHIA_DELAYED_RESPONSE_TO_TGFB1	37	0.669147	2.08324	<0.01	0.011942
REACTOME_SYNDECAN_INTERACTIONS	27	0.833177	2.083795	<0.01	0.011963
REACTOME_SIGNALING_BY_FLT3_ITD_AND_TKD_MUTANTS	16	0.753675	2.080842	<0.01	0.011995
REACTOME_EPH_EPHRIN_MEDIATED_REPULSION_OF_CELLS	51	0.59518	2.080941	0.001969	0.012114

ZWANG_CLASS_1_TRANSIENTLY_INDUCED_BY_EGF	474	0.469602	2.070339	<0.01	0.012462
LU_TUMOR_ENDOTHELIAL_MARKERS_UP	22	0.782519	2.070632	<0.01	0.012502
REACTOME_FCGAMMA_RECEPTOR_FCGR_DEPENDENT_PHAGOCYTOSIS	86	0.55204	2.070766	<0.01	0.012588
KIM_WT1_TARGETS_8HR_UP	165	0.533379	2.065623	<0.01	0.013129
PID_CXCR4_PATHWAY	100	0.576335	2.066047	0.00202	0.013156
LU_TUMOR_VASCULATURE_UP	29	0.712055	2.062017	0.002212	0.013251
REACTOME_RHOQ_GTPASE_CYCLE	59	0.582965	2.059885	<0.01	0.013263
BLANCO_MELO_RESPIRATORY_SYNCYTIAL_VIRUS_INFECTION_A594_CELLS_UP	278	0.594366	2.060863	0.004032	0.013281
GOTZMANN_EPITHELIAL_TO_MESENCHYMAL_TRANSITION_UP	69	0.596467	2.063234	0.002004	0.013313
BIOCARTA_P38MAPK_PATHWAY	36	0.56093	2.051381	<0.01	0.013758
PHONG_TNF_RESPONSE_VIA_P38_PARTIAL	159	0.51604	2.048123	0.002037	0.013824
SCHUETZ_BREAST_CANCER_DUCTAL_INVASIVE_UP	340	0.703695	2.051506	0.002062	0.013885
SENGUPTA_NASOPHARYNGEAL_CARCINOMA_UP	299	0.591774	2.048466	0.002105	0.013888
KARAKAS_TGFB1_SIGNALING	18	0.754147	2.055737	<0.01	0.01389

PID_INSULIN_PATHWAY	44	0.587395	2.052219	<0.01	0.013917
PID_UPA_UPAR_PATHWAY	42	0.66252	2.054382	<0.01	0.013964
SESTO_RESPONSE_TO_UV_C8	69	0.588159	2.053538	<0.01	0.013964
REACTOME_DOWNSTREAM_SIGNAL_TRANSDUCTION	29	0.653905	2.048469	0.001969	0.014008
IKEDA_MIR30_TARGETS_UP	115	0.574643	2.052606	<0.01	0.014023
WP_REGULATION_OF_MICROTUBULE_CYTOSKELETON	46	0.597149	2.048733	0.001938	0.014118
REACTOME_RAC3_GTPASE_CYCLE	91	0.5398	2.046219	<0.01	0.01421
PHONG_TNF_RESPONSE_NOT_VIA_P38	333	0.476904	2.042973	<0.01	0.014228
HE_PTEN_TARGETS_UP	17	0.713185	2.029807	<0.01	0.014269
REACTOME_RAC2_GTPASE_CYCLE	87	0.54611	2.043458	<0.01	0.01429
VANHARANTA_UTERINE_FIBROID_UP	43	0.635294	2.041967	0.003922	0.014301
BLANCO_MELO_BETA_INTERFERON_TREATED_BRONCHIAL_EPITHELIAL_CELLS_UP	355	0.541984	2.030058	0.002012	0.014308
PID_AVB3_OPN_PATHWAY	31	0.645237	2.044647	<0.01	0.014309
KOKKINAKIS_METHIONINE_DEPRIVATION_48HR_UP	128	0.494489	2.040927	<0.01	0.014343

PID_ARF6_TRAFFICKING_PATHWAY	49	0.573665	2.030258	<0.01	0.014399
KUNINGER_IGF1_VS_PDGFB_TARGETS_DN	45	0.590137	2.031251	<0.01	0.014454
SASSON_RESPONSE_TO_FORSKOLIN_DN	85	0.534902	2.031631	<0.01	0.014511
JIANG_TIP30_TARGETS_UP	44	0.570348	2.030279	0.002062	0.014514
REACTOME_EXTRA_NUCLEAR_ESTROGEN_SIGNALING	75	0.506648	2.031956	<0.01	0.014544
ZHAN_MULTIPLE_MYELOMA_CD2_DN	45	0.570354	2.032092	<0.01	0.014642
MEBARKI_HCC_PROGENITOR_WNT_UP	177	0.572226	2.027512	0.002004	0.014643
PID_A6B1_A6B4_INTEGRIN_PATHWAY	46	0.60499	2.037863	0.002037	0.014671
WP_TGFBETA_SIGNALING_PATHWAY	132	0.503082	2.033412	<0.01	0.014683
TURASHVILI_BREAST_LOBULAR_CARCINOMA_VS_DUCTAL_NORMAL_UP	66	0.782783	2.032517	<0.01	0.014707
WP_SMALL_CELL_LUNG_CANCER	95	0.49592	2.036706	<0.01	0.014756
REACTOME_CTLA4_INHIBITORY_SIGNALING	21	0.64599	2.038079	<0.01	0.014763
BIOCARTA_ATM_PATHWAY	20	0.678475	2.033582	<0.01	0.014775
HINATA_NFKB_TARGETS_KERATINOCYTE_UP	84	0.612412	2.033957	0.002024	0.01489

RICKMAN_TUMOR_DIFFERENTIATED_WELL_VS_MODERATELY_DN	106	0.596018	2.033621	<0.01	0.014901
LIEN_BREAST_CARCINOMA_METAPLASTIC_VS_DUCTAL_UP	81	0.580865	2.034487	<0.01	0.014905
GU_PDEF_TARGETS_DN	39	0.624882	2.034986	<0.01	0.014983
REACTOME_SEMA3A_PAK_DEPENDENT_AXON_REPULSION	16	0.709466	2.02233	<0.01	0.015682
GU_PDEF_TARGETS_UP	70	0.63688	2.022493	0.002075	0.015746
KEGG_ECM_RECEPTOR_INTERACTION	83	0.650632	2.021455	<0.01	0.015767
BIOCARTA_P53HYPOXIA_PATHWAY	21	0.651104	2.019799	0.002028	0.015858
ONDER_CDH1_TARGETS_1_DN	164	0.52399	2.020532	<0.01	0.015919
PID_CDC42_PATHWAY	69	0.550837	2.020009	<0.01	0.015922
COULOUARN_TEMPORAL_TGFB1_SIGNATURE_UP	107	0.505976	2.017585	<0.01	0.016109
PID_S1P_META_PATHWAY	21	0.662919	2.017695	<0.01	0.016177
KEGG_REGULATION_OF_ACTIN_CYTOSKELETON	207	0.48532	2.014952	<0.01	0.016432
BURTON_ADIPOGENESIS_PEAK_AT_8HR	38	0.592545	2.015107	<0.01	0.016529
GENTILE_UV_RESPONSE_CLUSTER_D8	37	0.635386	2.009506	<0.01	0.017604

CHIARADONNA_NEOPLASTIC_TRANSFORMATION_KRAS_UP	131	0.549811	2.00772	<0.01	0.01779
HARRIS_HYPOXIA	81	0.558792	2.007894	0.002037	0.017848
WP_FAS_LIGAND_FASL_PATHWAY_AND_STRESS_INDUCTION_OF_HEAT_SHOCK_PROTEINS_HSP_REGULATION	42	0.592515	2.005968	0.002075	0.018171
WANG_METHYLATED_IN_BREAST_CANCER	35	0.667958	2.005061	0.006148	0.018275
ZHANG_RESPONSE_TO_IKK_INHIBITOR_AND_TNF_UP	217	0.529997	2.003552	0.005964	0.018513
WU_CELL_MIGRATION	177	0.525949	2.00258	<0.01	0.018684
PID_SYNDECAN_1_PATHWAY	46	0.675753	2.001228	0.006036	0.018886
KANG_AR_TARGETS_UP	17	0.759256	1.999994	0.003937	0.019075
SESTO_RESPONSE_TO_UV_C5	46	0.662262	1.998071	<0.01	0.019337
WP_NEURAL_CREST_CELL_MIGRATION_DURING_DEVELOPMENT	40	0.584327	1.995681	<0.01	0.01945
HINATA_NFKB_TARGETS_FIBROBLAST_UP	81	0.547325	1.996408	<0.01	0.019467
HUMMERICH_SKIN_CANCER_PROGRESSION_UP	87	0.566494	1.996988	<0.01	0.019467
REACTOME_INTERLEUKIN_12_SIGNALING	46	0.580669	1.995023	<0.01	0.019534
VERHAAK_GLIOBLASTOMA_MESENCHYMAL	215	0.636686	1.997131	0.006085	0.019549

PID_VEGFR1_PATHWAY	26	0.65053	1.992698	<0.01	0.019556
JOHNSTONE_PARVB_TARGETS_1_DN	59	0.588549	1.994061	0.00409	0.019561
PID_SYNDECAN_4_PATHWAY	31	0.620895	1.993009	<0.01	0.01959
DITTMER_PTHLH_TARGETS_DN	70	0.540578	1.992283	<0.01	0.019612
HENDRICKS_SMARCA4_TARGETS_UP	52	0.644251	1.991615	<0.01	0.019619
REACTOME_TRANSLOCATION_OF_SLC2A4_GLUT4_TO_THE_PLASMA_MEMBRANE	71	0.510643	1.993324	<0.01	0.01963
CHIARADONNA_NEOPLASTIC_TRANSFORMATION_KRAS_CDC25_UP	58	0.592881	1.994267	0.002088	0.01965
PID_MET_PATHWAY	79	0.539435	1.989844	<0.01	0.019973
PID_EPHB_FWD_PATHWAY	40	0.607194	1.988316	0.001992	0.020319
REACTOME_EXTRACELLULAR_MATRIX_ORGANIZATION	299	0.548596	1.987246	0.004024	0.020384
KEGG_TOLL_LIKE_RECEPTOR_SIGNALING_PATHWAY	89	0.539561	1.986416	0.003861	0.020515
SWEET_KRAS_TARGETS_UP	77	0.609223	1.984166	0.002101	0.020902
PID_GLYPICAN_1PATHWAY	27	0.64123	1.984599	<0.01	0.020916
REACTOME_SIGNALING_BY_VEGF	105	0.495572	1.982993	<0.01	0.02107

WP_VIRAL_ACUTE_MYOCARDITIS	86	0.509862	1.98077	<0.01	0.021086
WP_NEURAL_CREST_CELL_MIGRATION_IN_CANCER	43	0.570624	1.982401	<0.01	0.021187
WP_MIR5093P_ALTERATION_OF_YAP1ECM_AXIS	17	0.838771	1.979634	0.002037	0.021206
OSMAN_BLADDER_CANCER_UP	385	0.496856	1.981183	<0.01	0.021206
PID_CXCR3_PATHWAY	43	0.557577	1.980778	<0.01	0.021209
BURTON_ADIPOGENESIS_8	79	0.583931	1.979032	0.00409	0.021223
CHICAS_RB1_TARGETS_GROWING	239	0.551412	1.977652	0.006135	0.021258
TURASHVILI_BREAST_LOBULAR_CARCINOMA_VS_LOBULAR_NORMAL_DN	71	0.680498	1.98146	0.006073	0.021271
LINDSTEDT_DENDRITIC_CELL_MATURATION_A	61	0.60463	1.976932	0.005814	0.02131
WP_ANGIOGENESIS	24	0.683732	1.9779	<0.01	0.021313
KEGG_PANCREATIC_CANCER	70	0.512343	1.976303	<0.01	0.021391
GHANDHI_BYSTANDER_IRRADIATION_UP	77	0.558965	1.978066	0.002083	0.021393
PICCALUGA_ANGIOIMMUNOBLASTIC_LYMPHOMA_UP	202	0.610914	1.974961	0.002028	0.021628
VERRECCHIA_EARLY_RESPONSE_TO_TGFB1	54	0.652199	1.972851	0.004246	0.021785

HOELZEL_NF1_TARGETS_UP	132	0.480146	1.973061	<0.01	0.021847
POOLA_INVASIVE_BREAST_CANCER_UP	266	0.601691	1.973321	0.004032	0.021884
PID_NETRIN_PATHWAY	32	0.586752	1.973368	0.004073	0.021966
REACTOME_INTEGRIN_CELL_SURFACE_INTERACTIONS	84	0.636331	1.973578	<0.01	0.022004
WP_EBOLA_VIRUS_PATHWAY_ON_HOST	128	0.545309	1.970689	<0.01	0.022099
REACTOME_CLATHRIN_MEDIATED_ENDOCYTOSIS	144	0.467372	1.970744	<0.01	0.02221
GENTILE_UV_RESPONSE_CLUSTER_D6	33	0.614917	1.969362	<0.01	0.02228
WP_TOLLLIKE_RECEPTOR_SIGNALING_PATHWAY	90	0.525323	1.970816	0.005618	0.022296
WP_PATHOGENIC_ESCHERICHIA_COLI_INFECTION	55	0.554692	1.967327	0.004237	0.022404
PID_S1P_S1P1_PATHWAY	21	0.653757	1.966726	0.002128	0.022409
KEGG_PATHOGENIC_ESCHERICHIA_COLI_INFECTION	55	0.554692	1.967327	0.004237	0.02252
BAELDE_DIABETIC_NEPHROPATHY_DN	422	0.44613	1.968102	<0.01	0.022534
GOLDRATH_ANTIGEN_RESPONSE	345	0.511297	1.967643	<0.01	0.022539
REACTOME_SIGNALING_BY_RECEPTOR_TYROSINE_KINASES	499	0.416407	1.96473	<0.01	0.022746

REACTOME_COLLAGEN_DEGRADATION	64	0.647762	1.963956	0.00818	0.022756
BHATI_G2M_ARREST_BY_2METHOXYESTRADIOL_UP	108	0.500537	1.962843	0.002062	0.022766
REACTOME_RHOG_GTPASE_CYCLE	73	0.523549	1.964338	<0.01	0.022767
ALONSO_METASTASIS_EMT_UP	35	0.608101	1.964742	0.008065	0.022862
NUTT_GBM_VS_AO_GLIOMA_UP	46	0.605706	1.962894	0.001976	0.02287
PID_TCPTP_PATHWAY	42	0.604608	1.963169	0.003891	0.022879
DURCHDEWALD_SKIN_CARCINOGENESIS_DN	260	0.472261	1.96136	<0.01	0.023039
ELVIDGE_HYPOXIA_BY_DMOG_UP	130	0.505116	1.961553	0.00207	0.023118
REACTOME_ECM_PROTEOGLYCANS	76	0.662279	1.959859	<0.01	0.023255
SASSON_RESPONSE_TO_GONADOTROPHINS_DN	86	0.511522	1.95913	<0.01	0.023426
RAGHAVACHARI_PLATELET_SPECIFIC_GENES	67	0.551172	1.956683	0.002037	0.023923
REACTOME_SIGNALING_BY_FLT3_FUSION_PROTEINS	19	0.692683	1.955301	<0.01	0.024058
REACTOME_INTERLEUKIN_12_FAMILY_SIGNALING	56	0.543696	1.955451	<0.01	0.024102
WP_MFAP5_EFFECT_ON_PERMEABILITY_AND_MOTILITY_OF_ENDOTHELIAL_CELLS_VIA_CYTOSKELETON_REARRANGEMENT	18	0.698999	1.954816	<0.01	0.02413

DESERT_STEM_CELL_HEPATOCELLULAR_CARCINOMA_SUBCLASS_UP	236	0.544257	1.952453	0.00211	0.024638
ROY_WOUND_BLOOD_VESSEL_UP	48	0.660131	1.950121	0.004237	0.025126
SIMBULAN_UV_RESPONSE_NORMAL_DN	33	0.608192	1.950156	0.00202	0.025239
WINTER_HYPOXIA_METAGENE	233	0.468572	1.947732	0.004032	0.025377
REACTOME_COLLAGEN_BIOSYNTHESIS_AND_MODIFYING_ENZYMES	67	0.644344	1.949018	0.006085	0.025378
HOSHIDA_LIVER_CANCER_LATE_RECURRENCE_UP	61	0.535924	1.946991	<0.01	0.025483
DAVICIONI_TARGETS_OF_PAX_FOXO1_FUSIONS_UP	246	0.47588	1.947777	<0.01	0.025495
PID_BETA_CATENIN_NUC_PATHWAY	72	0.494986	1.946536	<0.01	0.025504
KEGG_PATHWAYS_IN_CANCER	323	0.417912	1.946117	<0.01	0.025529
REACTOME_CELL_CELL_COMMUNICATION	125	0.492592	1.944633	0.002033	0.025593
VART_KSHV_INFECTION_ANGIOGENIC_MARKERS_UP	159	0.523599	1.94425	<0.01	0.025599
REACTOME_INLB_MEDIATED_ENTRY_OF_LISTERIA_MONOCYTOGENES_INTO_HOST_CELL	15	0.704617	1.947779	<0.01	0.025613
KHETCHOUMIAN_TRIM24_TARGETS_UP	46	0.642397	1.944755	0.002004	0.025674
GEISS_RESPONSE_TO_DSRNA_UP	39	0.605644	1.94324	0.005988	0.025734

RUIZ_TNC_TARGETS_DN	141	0.627558	1.944989	0.010417	0.025757
PID_ER_NONGENOMIC_PATHWAY	40	0.559932	1.942688	0.001934	0.025817
MORI_SMALL_PRE_BII_LYMPHOCYTE_DN	76	0.490835	1.941667	0.002049	0.025954
XU_RESPONSE_TO_TRETINOIN_AND_NSC682994_UP	15	0.737013	1.942003	<0.01	0.02596
FRIDMAN_IMMORTALIZATION_DN	31	0.630565	1.939969	0.002024	0.026357
PID_PI3KCI_AKT_PATHWAY	35	0.586976	1.937833	<0.01	0.026662
PID_FAK_PATHWAY	59	0.578389	1.937293	0.004115	0.026682
REACTOME_CONSTITUTIVE_SIGNALING_BY_LIGAND_RESPONSIVE_EGFR_CANCER_VARIANTS	19	0.642737	1.938126	<0.01	0.0267
WP_ASSOCIATION_BETWEEN_PHYSICOCHEMICAL_FEATURES_AND_TOXICITY_ASSOCIATED_PATHWAYS	65	0.494534	1.935591	0.001976	0.026808
PID_ECADHERIN_NASCENT_AJ_PATHWAY	39	0.58526	1.935906	0.002037	0.026854
PETROVA_PROX1_TARGETS_DN	56	0.610472	1.93517	<0.01	0.02687
BIOCARTA_HCMV_PATHWAY	17	0.680568	1.93619	<0.01	0.026876
WP_TYPE_2_PAPILLARY_RENAL_CELL_CARCINOMA	34	0.526634	1.932592	0.002132	0.026959
PLASARI_TGFB1_TARGETS_10HR_UP	192	0.490998	1.933606	0.004115	0.027023

REACTOME_RHO_GTPASE_EFFECTORS	259	0.491284	1.932738	0.006536	0.027041
MEBARKI_HCC_PROGENITOR_WNT_UP_BLOCKED_BY_FZD8CRD	112	0.534637	1.93299	<0.01	0.027087
ZHU_SKIL_TARGETS_UP	19	0.706891	1.93196	0.003839	0.027104
ZHENG_GLIOBLASTOMA_PLASTICITY_UP	244	0.47849	1.933705	0.006085	0.027114
WP_G13_SIGNALING_PATHWAY	39	0.555202	1.931326	0.001969	0.027126
HOWLIN_CITED1_TARGETS_1_DN	37	0.609917	1.933935	<0.01	0.027132
MARTINEZ_RESPONSE_TO_TRABECTEDIN_DN	261	0.51048	1.930298	0.002096	0.027333
BLANCO_MELO_BRONCHIAL_EPITHELIAL_CELLS_INFLUENZA_A_INFECTION_UP	125	0.5303	1.928816	0.001934	0.02735
WP_VEGFAVEGFR2_SIGNALING_PATHWAY	425	0.434644	1.929725	<0.01	0.027407
KEGG_AXON_GUIDANCE	128	0.464287	1.928946	0.001961	0.027428
IKEDA_MIR1_TARGETS_UP	54	0.591196	1.929215	0.00207	0.027475
HOLLERN_EMT_BREAST_TUMOR_UP	139	0.59385	1.926212	<0.01	0.028065
DACOSTA_UV_RESPONSE_VIA_ERCC3_COMMON_DN	453	0.543315	1.924826	0.007984	0.028069
KOKKINAKIS_METHIONINE_DEPRIVATION_96HR_UP	116	0.47505	1.925754	0.001992	0.028075

PID_INTEGRIN5_PATHWAY	16	0.755586	1.924953	<0.01	0.028155
REACTOME_NEPHRIN_FAMILY_INTERACTIONS	21	0.683043	1.925206	0.003795	0.028163
REACTOME_CONSTITUTIVE_SIGNALING_BY_EGFRVIII	15	0.702308	1.923462	<0.01	0.028216
STREICHER_LSM1_TARGETS_DN	19	0.653507	1.923499	0.001996	0.028327
KIM_LIVER_CANCER_POOR_SURVIVAL_UP	22	0.681103	1.922235	0.00616	0.028515
REACTOME_REGULATION_OF_SIGNALING_BY_CBL	22	0.643002	1.921448	0.001898	0.028672
REACTOME_GENE_AND_PROTEIN_EXPRESSION_BY_JAK_STAT_SIGNALING_AFTER_INTERLEUKIN_12_STIMULATION	37	0.597737	1.917411	<0.01	0.029706
LAIHO_COLORECTAL_CANCER_SERRATED_UP	108	0.576766	1.917958	0.004255	0.029758
HAHTOLA_SEZARY_SYNDROM_UP	96	0.487146	1.91745	<0.01	0.029816
BERENJENO_TRANSFORMED_BY_RHOA_REVERSIBLY_DN	28	0.650005	1.916503	<0.01	0.029826
WP_REGULATION_OF_ACTIN_CYTOSKELETON	148	0.457065	1.91657	<0.01	0.029908
WP_MIRNA_TARGETS_IN_ECM_AND_MEMBRANE_RECEPTORS	22	0.895784	1.915095	<0.01	0.030232
SMID_BREAST_CANCER_RELAPSE_IN_BONE_DN	293	0.445411	1.914702	<0.01	0.030253
NEMETH_INFLAMMATORY_RESPONSE_LPS_UP	85	0.539994	1.91386	0.006135	0.030439

WP_HIPPOMERLIN_SIGNALING_DYSREGULATION	118	0.471351	1.9112	<0.01	0.031121
REACTOME_RHOH_GTPASE_CYCLE	37	0.537512	1.911227	0.001976	0.031225
PID_P38_ALPHA_BETA_PATHWAY	30	0.556237	1.910243	0.00616	0.031336
KAN_RESPONSE_TO_ARSENIC_TRIOXIDE	121	0.497456	1.909479	<0.01	0.031455
WEST_ADRENOCORTICAL_TUMOR_UP	288	0.53778	1.904321	0.006329	0.031533
GYORFFY_MITOXANTRONE_RESISTANCE	34	0.553982	1.908868	<0.01	0.031567
GEORGES_CELL_CYCLE_MIR192_TARGETS	59	0.63391	1.904447	0.012526	0.031624
HAN_JNK_SINGALING_UP	34	0.599848	1.904712	<0.01	0.031668
JOHNSTONE_PARVB_TARGETS_2_DN	323	0.506606	1.908241	<0.01	0.031704
WP_FOCAL_ADHESIONPI3KAKTMTORSIGNALING_PATHWAY	298	0.424559	1.904832	<0.01	0.031738
PETROVA_ENDOTHELIUM_LYMPHATIC_VS_BLOOD_DN	160	0.513938	1.904996	0.002105	0.03178
LE_SKI_TARGETS_UP	17	0.712878	1.905604	0.00207	0.031868
BUFFA_HYPOXIA_METAGENE	50	0.69511	1.905287	0.008457	0.031883
BIOCARTA_G1_PATHWAY	28	0.618698	1.905086	<0.01	0.031883

KRIEG_HYPOXIA_VIA_KDM3A	52	0.55807	1.902756	<0.01	0.031934
DOANE_BREAST_CANCER_CLASSES_DN	32	0.606597	1.906077	0.00202	0.031943
WESTON_VEGFA_TARGETS_6HR	48	0.575052	1.905625	0.008114	0.031977
ZHU_CMV_ALL_DN	115	0.528111	1.906204	0.012526	0.032022
REACTOME_EGFR_DOWNREGULATION	31	0.58136	1.906273	0.001957	0.032111
ZHENG_FOXP3_TARGETS_IN_THYMUS_UP	193	0.514743	1.906548	0.00198	0.032167
BURTON_ADIPOGENESIS_2	71	0.491308	1.901632	0.003937	0.032289
BIOCARTA_NDKDYNAMIN_PATHWAY	17	0.667285	1.90015	<0.01	0.032589
REACTOME_SIGNALING_BY_SCF_KIT	43	0.549253	1.900265	0.005976	0.032665
JACKSON_DNMT1_TARGETS_UP	80	0.490537	1.897432	<0.01	0.033322
SIG_CHEMOTAXIS	45	0.525236	1.897632	0.001916	0.033374
ELVIDGE_HIF1A_AND_HIF2A_TARGETS_DN	102	0.493013	1.896938	0.00409	0.03343
REACTOME_DEGRADATION_OF_THE_EXTRACELLULAR_MATRIX	140	0.533098	1.89602	0.008016	0.033611
PID_VEGFR1_2_PATHWAY	69	0.504483	1.895597	0.004049	0.03368

PETRETTO_CARDIAC_HYPERTROPHY	34	0.655538	1.89528	0.008147	0.03371
MARKEY_RB1_CHRONIC_LOF_UP	111	0.494601	1.894116	0.002028	0.034061
RASHI_RESPONSE_TO_IONIZING_RADIATION_4	46	0.519491	1.893116	0.002092	0.034176
ZHU_CMV_24_HR_DN	81	0.576002	1.893434	0.004415	0.034215
REACTOME_ELASTIC_FIBRE_FORMATION	44	0.655852	1.892663	0.018109	0.034246
XU_HGF_SIGNALING_NOT_VIA_AKT1_48HR_UP	34	0.558769	1.891972	0.00396	0.034391
KANG_AR_TARGETS_DN	18	0.716837	1.891242	0.006135	0.034412
BIOCARTA_GCR_PATHWAY	17	0.666189	1.890703	0.001927	0.034492
LINDGREN_BLADDER_CANCER_HIGH_RECURRENCE	48	0.631807	1.891321	0.010101	0.0345
PID_SYNDECAN_2_PATHWAY	33	0.580008	1.891528	0.004016	0.034518
WP_PDGF_PATHWAY	40	0.53553	1.888857	0.006263	0.034777
WP_HEPATITIS_B_INFECTION	138	0.442087	1.888976	<0.01	0.03485
WP_OXIDATIVE_DAMAGE	40	0.547696	1.889227	0.00404	0.034898
WOO_LIVER_CANCER_RECURRENCE_UP	103	0.489963	1.886299	0.002083	0.035235

PID_PTP1B_PATHWAY	51	0.557673	1.88654	<0.01	0.035285
DIRMEIER_LMP1_RESPONSE_LATE_UP	54	0.546834	1.885543	0.008147	0.035312
WP_RANKLRANK_RECEPTOR_ACTIVATOR_OF_NFKB_LIGAND_SIGNALING_PATHWAY	55	0.480254	1.885803	<0.01	0.035328
PID_INTEGRIN_A9B1_PATHWAY	25	0.63253	1.886735	0.004107	0.035375
PID_RAC1_PATHWAY	53	0.520199	1.887003	0.00211	0.035402
WP_NETRINUNC5B_SIGNALING_PATHWAY	49	0.51926	1.884187	<0.01	0.035687
REACTOME_CELL_EXTRACELLULAR_MATRIX_INTERACTIONS	18	0.763452	1.883885	0.002062	0.035709
RODWELL_AGING_KIDNEY_NO_BLOOD_UP	209	0.501462	1.882593	0.004184	0.036008
PID_ERBB1_DOWNSTREAM_PATHWAY	105	0.485477	1.881093	0.002132	0.036512
JEON_SMAD6_TARGETS_UP	24	0.672325	1.880103	0.008016	0.03655
ZHONG_RESPONSE_TO_AZACITIDINE_AND_TSA_UP	175	0.420249	1.880384	0.001923	0.036583
WINTER_HYPOXIA_UP	93	0.57815	1.878823	0.017094	0.03665
SARTIPY_BLUNTED_BY_INSULIN_RESISTANCE_UP	18	0.68749	1.879574	0.001984	0.036653
GROSS_HYPOXIA_VIA_ELK3_DN	147	0.464303	1.880418	0.004115	0.036681

WP_EGFEGFR_SIGNALING_PATHWAY	162	0.451642	1.878855	0.001916	0.036751
DANG_MYC_TARGETS_DN	30	0.594553	1.877588	0.006122	0.036772
KANG_IMMORTALIZED_BY_TERT_UP	87	0.464283	1.877982	0.002066	0.036854
BIOCARTA_FAS_PATHWAY	30	0.602516	1.877598	0.004141	0.036885
GENTILE_UV_HIGH_DOSE_DN	280	0.448723	1.876845	<0.01	0.037008
WIERENGA_STAT5A_TARGETS_GROUP2	53	0.569481	1.876211	0.006036	0.037118
REACTOME_SIGNALING_BY_ERBB2_ECD_MUTANTS	16	0.663329	1.875523	<0.01	0.037261
VERRECCHIA_RESPONSE_TO_TGFB1_C5	21	0.631953	1.8719	0.012097	0.037661
AMIT_EGF_RESPONSE_60_HELA	44	0.557878	1.872235	0.003968	0.03768
REACTOME_DEREGULATED_CDK5_TRIGGERS_MULTIPLE_NEURODEGENERATIVE_PATHWAYS_IN_ALZHEIMER_S_DISEASE_MODELS	22	0.624445	1.872871	<0.01	0.037681
NAKAYAMA_SOFT_TISSUE_TUMORS_PCA2_UP	85	0.64266	1.873396	0.014644	0.037747
PID_IL3_PATHWAY	24	0.574028	1.872964	0.007874	0.037776
MEBARKI_HCC_PROGENITOR_WNT_UP_CTNNB1_INDEPENDENT	22	0.749734	1.872263	0.006036	0.037788
CHARAFE_BREAST_CANCER_BASAL_VS_MESENCHYMAL_DN	51	0.572016	1.873473	0.012474	0.037809

GAL_LEUKEMIC_STEM_CELL_DN	227	0.464036	1.874013	0.002	0.037821
WP_RAC1PAK1P38MMP2_PATHWAY	68	0.489771	1.873686	0.002053	0.037842
PID_ANGIOPOIETIN_RECEPTOR_PATHWAY	49	0.548877	1.86972	0.003914	0.038226
LINDGREN_BLADDER_CANCER_CLUSTER_2A_DN	134	0.487302	1.870036	0.004073	0.038308
WIERENGA_STAT5A_TARGETS_UP	195	0.434206	1.869804	0.004049	0.038315
ELVIDGE_HYPOXIA_UP	167	0.463702	1.868766	0.002101	0.038467
BROWNE_HCMV_INFECTION_20HR_DN	92	0.483676	1.868827	0.001965	0.038555
PID_NECTIN_PATHWAY	30	0.6192	1.867436	0.005964	0.038686
KIM_GLIS2_TARGETS_UP	82	0.6469	1.867451	0.004211	0.038794
WP_THYMIC_STROMAL_LYMPHOPOIETIN_TSLP_SIGNALING_PATHWAY	47	0.529384	1.867736	0.005988	0.038799
GALINDO_IMMUNE_RESPONSE_TO_ENTEROTOXIN	80	0.561707	1.866583	0.015905	0.038889
SCHOEN_NFKB_SIGNALING	32	0.616616	1.864988	0.007937	0.03931
REACTOME_SIGNALING_BY_INTERLEUKINS	437	0.422633	1.865238	0.004065	0.039327
WP_SENESCENCE_AND_AUTOPHAGY_IN_CANCER	104	0.46403	1.865305	0.004115	0.039412

FRIDMAN_SENESCENCE_UP	75	0.513596	1.863549	0.004107	0.039739
REACTOME_SIGNAL_TRANSDUCTION_BY_L1	21	0.618501	1.863128	0.004016	0.03979
WP_MET_IN_TYPE_1_PAPILLARY_RENAL_CELL_CARCINOMA	59	0.502345	1.862231	0.001961	0.039908
BECKER_TAMOXIFEN_RESISTANCE_DN	52	0.529178	1.862444	0.002096	0.039939
MYLLYKANGAS_AMPLIFICATION_HOT_SPOT_17	19	0.637566	1.861734	0.006073	0.040009
CLASPER_LYMPHATIC_VESSELS_DURING_METASTASIS_DN	35	0.743526	1.861361	0.006342	0.040058
WP_COPPER_HOMEOSTASIS	50	0.496299	1.86026	<0.01	0.040455
PLASARI_TGFB1_SIGNALING_VIA_NFIC_1HR_UP	30	0.583583	1.859011	0.001949	0.040957
AZARE_STAT3_TARGETS	24	0.647129	1.858295	0.005941	0.041137
REACTOME_RHOD_GTPASE_CYCLE	51	0.523047	1.857617	0.006098	0.04128
LINDVALL_IMMORTALIZED_BY_TERT_DN	70	0.532723	1.855336	0.00823	0.042122
WP_INTERFERON_TYPE_I_SIGNALING_PATHWAYS	54	0.495453	1.85388	0.001912	0.042674
SARTIPY_NORMAL_AT_INSULIN_RESISTANCE_UP	29	0.607852	1.851292	0.004292	0.042824
CHIBA_RESPONSE_TO_TSA_DN	21	0.654632	1.8532	0.008163	0.042889

CROONQUIST_NRAS_VS_STROMAL_STIMULATION_DN	91	0.524133	1.851311	0.00823	0.042922
BONCI_TARGETS_OF_MIR15A_AND_MIR16_1	90	0.482163	1.851422	<0.01	0.043008
WP_TYPE_I_COLLAGEN_SYNTHESIS_IN_THE_CONTEXT_OF_OSTEOGENESIS_IMPERFECTA	33	0.585632	1.851587	0.011858	0.043076
KEGG_MELANOMA	70	0.480517	1.851804	<0.01	0.043101
GUENTHER_GROWTH_SPHERICAL_VS_ADHERENT_DN	25	0.66919	1.85199	0.008032	0.043127
TOOKER_GEMCITABINE_RESISTANCE_DN	119	0.483474	1.852086	<0.01	0.043179
YANG_BREAST_CANCER_ESR1_BULK_DN	22	0.60493	1.852112	0.006012	0.043283
REACTOME_NEGATIVE_REGULATORS_OF_DDX58_IFIH1_SIGNALING	34	0.558444	1.849569	0.002028	0.043315
REACTOME_SIGNALLING_TO_RAS	20	0.608377	1.848765	0.01	0.043397
LINDVALL_IMMORTALIZED_BY_TERT_UP	62	0.49546	1.848841	0.00396	0.043495
SANA_TNF_SIGNALING_UP	82	0.579862	1.847966	0.02381	0.043548
PID_S1P_S1P2_PATHWAY	24	0.599003	1.847646	0.013861	0.043566
DE_YY1_TARGETS_DN	92	0.527129	1.84801	<0.01	0.043638
SIG_INSULIN_RECEPTOR_PATHWAY_IN_CARDIAC_MYOCYTES	51	0.502018	1.846956	0.003831	0.043652

YANG_BREAST_CANCER_ESR1_LASER_DN	46	0.540134	1.84707	0.001972	0.043724
BIOCARTA_RAC1_PATHWAY	21	0.613761	1.845924	0.003929	0.043908
REACTOME_FLT3_SIGNALING	38	0.571543	1.845948	0.017893	0.044024
REACTOME_THE_NLRP3_INFLAMMASOME	16	0.695482	1.845241	0.001949	0.044076
TARTE_PLASMA_CELL_VS_PLASMABLAST_DN	297	0.536313	1.844457	0.016878	0.044334
REACTOME_GASTRIN_CREB_SIGNALLING_PATHWAY_VIA_PKC_AND_MAPK	18	0.603012	1.843945	0.007797	0.044391
REACTOME_LAMININ_INTERACTIONS	30	0.68703	1.842923	0.009901	0.044502
PID_PDGFRA_PATHWAY	22	0.626115	1.843327	0.003868	0.044546
BIOCARTA_GSK3_PATHWAY	20	0.627719	1.842981	0.001942	0.044594
WP_GASTRIN_SIGNALING_PATHWAY	114	0.460888	1.839964	0.006186	0.045364
BASAKI_YBX1_TARGETS_UP	280	0.556925	1.840446	0.031513	0.0454
LU_EZH2_TARGETS_DN	377	0.421473	1.839988	<0.01	0.045473
LU_TUMOR_ANGIOGENESIS_UP	25	0.596729	1.839221	0.006211	0.0456
WP_PROLACTIN_SIGNALING_PATHWAY	76	0.480754	1.836284	0.002045	0.04688

KEGG_CHRONIC_MYELOID_LEUKEMIA	73	0.473789	1.835657	0.00396	0.047028
VERRECCHIA_RESPONSE_TO_TGFB1_C2	21	0.731891	1.835378	0.004193	0.047041
REACTOME_SIGNALING_BY_ERBB4	57	0.465435	1.831192	<0.01	0.047135
SERVITJA_ISLET_HNF1A_TARGETS_UP	163	0.495209	1.830929	0.004	0.047153
AMIT_SERUM_RESPONSE_480_MCF10A	35	0.566226	1.830453	0.004193	0.047163
ELVIDGE_HIF1A_TARGETS_UP	66	0.520165	1.831249	0.004098	0.04722
ANASTASSIOU_MULTICANCER_INVASIVENESS_SIGNATURE	64	0.829746	1.830061	0.008197	0.047228
SMID_BREAST_CANCER_RELAPSE_IN_LUNG_UP	22	0.623698	1.832141	0.00813	0.047239
FLECHNER_PBL_KIDNEY_TRANSPLANT_OK_VS_DONOR_DN	38	0.518866	1.831419	0.00396	0.047255
KAPOSI_LIVER_CANCER_MET_UP	18	0.660749	1.829491	0.004032	0.047268
BURTON_ADIPOGENESIS_PEAK_AT_16HR	41	0.633864	1.830475	0.030426	0.047278
THEILGAARD_NEUTROPHIL_AT_SKIN_WOUND_UP	76	0.503664	1.831643	0.002045	0.047283
ZHENG_BOUND_BY_FOXP3	475	0.436824	1.82885	0.00578	0.047291
SESTO_RESPONSE_TO_UV_C2	53	0.557081	1.832264	0.008081	0.047306

REACTOME_RHO_GTPASE_CYCLE	440	0.398723	1.829082	0.007859	0.047319
WILSON_PROTEASES_AT_TUMOR_BONE_INTERFACE_UP	20	0.662759	1.83247	0.002045	0.047334
WP_HEAD_AND_NECK_SQUAMOUS_CELL_CARCINOMA	73	0.469867	1.829561	0.003914	0.047358
WANG_RESPONSE_TO_BEXAROTENE_DN	29	0.572376	1.831684	0.007952	0.047394
AMIT_EGF_RESPONSE_240_HELA	58	0.531837	1.828415	0.010616	0.047413
CLASPER_LYMPHATIC_VESSELS_DURING_METASTASIS_UP	20	0.650469	1.832482	0.012072	0.047445
HERNANDEZ_MITOTIC_ARREST_BY_DOCETAXEL_2_UP	56	0.492128	1.828099	<0.01	0.047473
WANG_SMARCE1_TARGETS_DN	366	0.431652	1.832558	0.004376	0.047544
PARK_APL_PATHOGENESIS_DN	48	0.537025	1.827616	0.007984	0.047558
PECE_MAMMARY_STEM_CELL_DN	136	0.454546	1.832573	0.001996	0.047656
PID_ERBB1_INTERNALIZATION_PATHWAY	41	0.525089	1.833661	0.008081	0.047659
THUM_SYSTOLIC_HEART_FAILURE_UP	401	0.465288	1.832756	0.002096	0.047694
KEGG_ADHERENS_JUNCTION	73	0.501604	1.833211	0.007952	0.047723
BLANCO_MELO_HUMAN_PARAINFLUENZA_VIRUS_3_INFECTION_A594_CELLS_UP	193	0.576968	1.832902	0.027888	0.047742

AMIT_EGF_RESPONSE_480_HELA	159	0.500017	1.825991	0.012448	0.047746
REACTOME_RHOV_GTPASE_CYCLE	33	0.598667	1.825452	0.017578	0.047756
KIM_WT1_TARGETS_12HR_DN	207	0.42776	1.826107	0.00207	0.047804
WP_SPINAL_CORD_INJURY	116	0.462987	1.824969	<0.01	0.047837
MISHRA_CARCINOMA_ASSOCIATED_FIBROBLAST_UP	24	0.659184	1.825487	0.004237	0.047849
HOSHIDA_LIVER_CANCER_SURVIVAL_UP	72	0.479679	1.825128	0.00396	0.047858
REACTOME_SIGNALING_BY_KIT_IN_DISEASE	20	0.616998	1.826206	0.007767	0.047871
REACTOME_RHOU_GTPASE_CYCLE	34	0.550291	1.826541	0.01711	0.047922
URS_ADIPOCYTE_DIFFERENTIATION_DN	31	0.595917	1.826219	0.019724	0.047962
DUTERTRE_ESTRADIOL_RESPONSE_24HR_DN	496	0.425735	1.824427	0.003846	0.047996
WP_PI3KAKT_SIGNALING_PATHWAY	321	0.39731	1.822887	<0.01	0.048205
GROSS_HYPOXIA_VIA_ELK3_AND_HIF1A_UP	137	0.438415	1.822343	0.004107	0.048221
REACTOME_CELL_JUNCTION_ORGANIZATION	90	0.474756	1.82256	0.00823	0.048238
PID_NFKAPPAB_CANONICAL_PATHWAY	22	0.638256	1.823549	0.002049	0.048268

REACTOME_INTERLEUKIN_4_AND_INTERLEUKIN_13_SIGNALING	107	0.477779	1.823275	0.009881	0.048271
SESTO_RESPONSE_TO_UV_C1	69	0.524878	1.822895	0.011062	0.048312
ALTEMEIER_RESPONSE_TO_LPS_WITH_MECHANICAL_VENTILATION	122	0.574444	1.821388	0.012072	0.048467
WP_SARSCOV2_INNATE_IMMUNITY_EVASION_AND_CELLSPECIFIC_IMMUNE_RESPONSE	66	0.509202	1.821552	0.009506	0.048496
GARGALOVIC_RESPONSE_TO_OXIDIZED_PHOSPHOLIPIDS_CYAN_UP	16	0.649166	1.819428	0.009785	0.049046
TONKS_TARGETS_OF_RUNX1_RUNX1T1_FUSION_ERYTHROCYTE_UP	152	0.467979	1.8199	0.002041	0.049072
CHIANG_LIVER_CANCER_SUBCLASS_CTNNB1_DN	165	0.482787	1.819511	0.006173	0.049115
PID_ILK_PATHWAY	45	0.53743	1.81879	0.004132	0.0492
KEGG_LEUKOCYTE_TRANSENDOTHELIAL_MIGRATION	111	0.487958	1.818434	0.002066	0.049245
VERRECCHIA_RESPONSE_TO_TGFB1_C1	19	0.638636	1.81664	0.016563	0.049428
WP_HUMAN_THYROID_STIMULATING_HORMONE_TSH_SIGNALING_PATHWAY	65	0.461953	1.816806	0.00789	0.049444
REACTOME_CARGO_RECOGNITION_FOR_CLATHRIN_MEDIATED_ENDOCYTOSIS	104	0.442207	1.816876	<0.01	0.04952
MITSIADES_RESPONSE_TO_APLIDIN_DN	243	0.56378	1.817625	0.018987	0.049526
LIEN_BREAST_CARCINOMA_METAPLASTIC	33	0.68671	1.816947	0.018405	0.049608

MARCHINI_TRABECTEDIN_RESISTANCE_DN	45	0.549472	1.816115	0.006048	0.049611
KEGG_FC_GAMMA_R_MEDIATED_PHAGOCYTOSIS	95	0.454147	1.815864	0.007737	0.049621
BERENJENO_TRANSFORMED_BY_RHOA_FOREVER_DN	29	0.583123	1.815484	0.010267	0.049666
LINDGREN_BLADDER_CANCER_CLUSTER_2B	375	0.53076	1.816966	0.01006	0.049715
JOHANSSON_GLIOMAGENESIS_BY_PDGFB_UP	57	0.526146	1.814108	<0.01	0.049772
WP_PHOTODYNAMIC_THERAPYINDUCED_AP1_SURVIVAL_SIGNALING	50	0.483023	1.814214	0.00202	0.049851
LIM_MAMMARY_LUMINAL_MATURE_DN	92	0.545149	1.81444	0.01833	0.049871
LU_IL4_SIGNALING	89	0.501115	1.814526	0.004082	0.049928
SASAI_RESISTANCE_TO_NEOPLASTIC_TRANSFROMATION	48	0.588287	1.813514	0.026531	0.049961
BORCZUK_MALIGNANT_MESOTHELIOMA_UP	298	0.532217	1.814625	0.018828	0.049993
GILDEA_METASTASIS	28	0.638323	1.812808	0.002041	0.050127
SEMENZA_HIF1_TARGETS	36	0.583304	1.812325	0.010526	0.050266
WILCOX_RESPONSE_TO_PROGESTERONE_DN	60	0.545059	1.810851	0.01222	0.050711
CROONQUIST_NRAS_SIGNALING_UP	37	0.63636	1.810975	0.007843	0.050764

BROCKE_APOPTOSIS_REVERSED_BY_IL6	142	0.459719	1.809824	0.008511	0.051076
KARLSSON_TGFB1_TARGETS_UP	120	0.534728	1.809326	0.014523	0.051211
GRAHAM_NORMAL_QUIESCENT_VS_NORMAL_DIVIDING_UP	55	0.545947	1.808981	0.010352	0.051243
ZHANG_ANTIVIRAL_RESPONSE_TO_RIBAVIRIN_DN	45	0.522822	1.808759	0.003906	0.051254
BIOCARTA_CTCF_PATHWAY	24	0.611305	1.808258	0.007921	0.051375
LEE_CALORIE_RESTRICTION_NEOCORTEX_DN	58	0.467989	1.807355	<0.01	0.051733
REACTOME_SIGNALLING_TO_ERKS	33	0.531493	1.805721	0.008081	0.051823
YOSHIMURA_MAPK8_TARGETS_DN	356	0.396962	1.806355	<0.01	0.051843
ZHAN_EARLY_DIFFERENTIATION_GENES_DN	42	0.535929	1.806872	0.012072	0.051843
REACTOME_L1CAM_INTERACTIONS	120	0.44661	1.806619	0.003906	0.051845
LY_AGING_OLD_DN	54	0.653583	1.80575	0.012579	0.051918
MARKEY_RB1_ACUTE_LOF_DN	225	0.509046	1.803659	0.014085	0.052075
LIANG_SILENCED_BY_METHYLATION_2	52	0.549776	1.804562	0.016427	0.052094
WP_EGFR_TYROSINE_KINASE_INHIBITOR_RESISTANCE	84	0.456132	1.803805	0.003868	0.052096

GENTILE_UV_RESPONSE_CLUSTER_D5	35	0.55472	1.804751	0.004065	0.052106
YIH_RESPONSE_TO_ARSENITE_C4	17	0.611365	1.803974	0.003861	0.052116
LINDGREN_BLADDER_CANCER_CLUSTER_1_DN	368	0.42169	1.804963	0.010101	0.052117
LIM_MAMMARY_STEM_CELL_UP	465	0.488005	1.804167	0.026263	0.052141
SEIDEN_ONCOGENESIS_BY_MET	88	0.564904	1.803325	0.012579	0.052144
BIOCARTA_CREB_PATHWAY	21	0.606276	1.802897	0.004175	0.052292
GHANDHI_DIRECT_IRRADIATION_UP	98	0.483635	1.802241	0.002037	0.052401
WP_APOPTOSIS_MODULATION_BY_HSP70	19	0.601504	1.801648	0.00207	0.052432
SASAKI_ADULT_T_CELL_LEUKEMIA	159	0.456163	1.802297	0.008351	0.052482
MARTORIATI_MDM4_TARGETS_FETAL_LIVER_DN	497	0.422316	1.801708	0.00202	0.052517
REACTOME_NUCLEOTIDE_BINDING_DOMAIN_LEUCINE_RICH_REPEAT_CONTAINING_RECEPTOR_NLR_SIGNALING_PATHWAYS	56	0.512604	1.800772	0.00616	0.052756
WP_PHOTODYNAMIC_THERAPYINDUCED_HIF1_SURVIVAL_SIGNALING	37	0.528353	1.800421	0.014344	0.052829
SMIRNOV_CIRCULATING_ENDOTHELIOCYTES_IN_CANCER_UP	157	0.481691	1.79957	0.013972	0.053137
ZWANG_CLASS_3_TRANSIENTLY_INDUCED_BY_EGF	213	0.482477	1.798432	0.01636	0.053397

BIOCARTA_MET_PATHWAY	33	0.550375	1.79862	0.004008	0.053444
LEI_MYB_TARGETS	311	0.420727	1.798627	0.002037	0.053553
PID_LYSOPHOSPHOLIPID_PATHWAY	65	0.490834	1.797235	0.016529	0.053585
JISON_SICKLE_CELL_DISEASE_UP	178	0.487221	1.797402	0.002092	0.05359
ABRAHAM_ALPC_VS_MULTIPLE_MYELOMA_DN	20	0.598304	1.796981	<0.01	0.053603
WINZEN_DEGRADED_VIA_KHSRP	96	0.485513	1.797422	0.008547	0.053686
YANAGIHARA_ESX1_TARGETS	28	0.564142	1.797617	0.011788	0.053687
BROWNE_HCMV_INFECTION_12HR_DN	94	0.464698	1.795257	<0.01	0.054309
BOQUEST_STEM_CELL_UP	254	0.527854	1.793867	0.016427	0.054887
REACTOME_SIGNAL_AMPLIFICATION	33	0.522632	1.791841	0.006593	0.055415
HAHTOLA_MYCOSIS_FUNGOIDES_UP	15	0.64951	1.791877	0.010288	0.055513
REACTOME_LISTERIA_MONOCYTOGENES_ENTRY_INTO_HOST_CELLS	20	0.623127	1.792046	0.010288	0.055521
JINESH_BLEBBISHIELD_TO_IMMUNE_CELL_FUSION_PBSHMS_UP	365	0.404194	1.790681	0.003922	0.055543
OSADA_ASCL1_TARGETS_DN	24	0.619726	1.792182	0.009766	0.055571

OKUMURA_INFLAMMATORY_RESPONSE_LPS	172	0.393913	1.790798	<0.01	0.055602
MEINHOLD_OVARIAN_CANCER_LOW_GRADE_DN	19	0.686449	1.789959	0.012685	0.055612
REACTOME_SIGNALING_BY_THE_B_CELL_RECEPTOR_BCR	109	0.497396	1.792269	0.01046	0.055638
BARIS_THYROID_CANCER_DN	58	0.477303	1.790908	0.001957	0.055677
WP_APOPTOSISRELATED_NETWORK_DUE_TO_ALTERED_NOTCH3_IN_OVARIAN_CANCER	53	0.476862	1.789652	0.004082	0.055679
SPIELMAN_LYMPHOBLAST_EUROPEAN_VS_ASIAN_2FC_DN	20	0.668999	1.789382	0.004141	0.055687
SMIRNOV_RESPONSE_TO_IR_2HR_UP	51	0.49364	1.78997	0.015238	0.055709
REACTOME_ANTIVIRAL_MECHANISM_BY_IFN_STIMULATED_GENES	81	0.532307	1.791041	0.008602	0.055715
NGUYEN_NOTCH1_TARGETS_DN	78	0.459111	1.788766	0.008299	0.055731
SCHRAETS_MLL_TARGETS_DN	34	0.58264	1.790063	0.013972	0.055782
BROWNE_HCMV_INFECTION_8HR_UP	98	0.417599	1.788839	<0.01	0.055812
WP_PATHWAYS_IN_CLEAR_CELL_RENAL_CELL_CARCINOMA	83	0.471811	1.787513	0.004301	0.055975
WANG_CLIM2_TARGETS_DN	172	0.460865	1.787759	0.006198	0.055977
REACTOME_PLATELET_ACTIVATION_SIGNALING_AND_AGGREGATION	257	0.418638	1.787947	<0.01	0.055994

IKEDA_MIR133_TARGETS_UP	43	0.550182	1.787287	0.014463	0.056007
BIOCARTA_G2_PATHWAY	24	0.622002	1.786414	0.014583	0.056039
FOURNIER_ACINAR_DEVELOPMENT_LATE_2	276	0.53864	1.786754	0.027197	0.056069
HELLEBREKERS_SILENCED_DURING_TUMOR_ANGIOGENESIS	76	0.495477	1.786039	0.008065	0.056098
WP_ALPHA_6_BETA_4_SIGNALING_PATHWAY	33	0.573327	1.786524	0.016461	0.05611
REACTOME_ACTIVATION_OF_IRF3_IRF7_MEDIATED_BY_TBK1_IKK_EPSILON	17	0.608434	1.786917	0.00409	0.056116
MANALO_HYPOXIA_UP	199	0.44349	1.785429	0.010504	0.056248
REACTOME_CD28_CO_STIMULATION	33	0.516164	1.785069	0.005758	0.056334
KIM_HYPOXIA	17	0.674388	1.784666	0.020661	0.056427
REACTOME_NEGATIVE_REGULATION_OF_MET_ACTIVITY	21	0.572606	1.784417	0.003883	0.056467
MIYAGAWA_TARGETS_OF_EWSR1_ETS_FUSIONS_UP	256	0.406326	1.784079	0.002004	0.056522
REACTOME_SIGNALING_BY_EGFR_IN_CANCER	25	0.557411	1.783232	0.005906	0.056547
RIGGINS_TAMOXIFEN_RESISTANCE_DN	216	0.434407	1.782927	<0.01	0.056583
IGLESIAS_E2F_TARGETS_UP	143	0.513251	1.783528	0.014925	0.056596

WP_CANONICAL_AND_NONCANONICAL_TGFB_SIGNALING	17	0.672938	1.78331	0.006173	0.056601
PEDERSEN_METASTASIS_BY_ERBB2_ISOFORM_7	369	0.386689	1.780593	0.002083	0.056646
LI_CISPLATIN_RESISTANCE_UP	25	0.55477	1.781374	0.008403	0.056665
LEI_HOXC8_TARGETS_DN	17	0.640772	1.783567	0.010373	0.056691
WP_PANCREATIC_ADENOCARCINOMA_PATHWAY	89	0.440288	1.781102	<0.01	0.056706
DAUER_STAT3_TARGETS_UP	47	0.545754	1.782114	0.012474	0.056706
POS_HISTAMINE_RESPONSE_NETWORK	29	0.536009	1.782276	<0.01	0.056719
JAEGER_METASTASIS_UP	43	0.593633	1.780611	0.023656	0.056747
GROSS_HYPOXIA_VIA_ELK3_AND_HIF1A_DN	102	0.425106	1.781382	0.00616	0.056767
BURTON_ADIPOGENESIS_9	82	0.448485	1.782405	0.006036	0.056776
PID_ERBB4_PATHWAY	38	0.519003	1.781455	0.005505	0.056827
HOLLERN_SOLID_NODULAR_BREAST_TUMOR_DN	30	0.602108	1.780641	0.015873	0.056836
GRABARCZYK_BCL11B_TARGETS_UP	73	0.479731	1.781473	0.016162	0.056925
CHIANG_LIVER_CANCER_SUBCLASS_PROLIFERATION_UP	174	0.55657	1.779299	0.029598	0.057152

SIG_PIP3_SIGNALING_IN_CARDIAC_MYOCTES	67	0.460958	1.778772	0.001927	0.057291
REACTOME_NEGATIVE_REGULATION_OF_THE_PI3K_AKT_NETWORK	112	0.425774	1.778526	<0.01	0.057296
TSAI_RESPONSE_TO_IONIZING_RADIATION	147	0.438924	1.77601	0.008	0.058063
LANG_MYB_FAMILY_TARGETS	29	0.556068	1.776724	0.004049	0.058081
KAYO_CALORIE_RESTRICTION_MUSCLE_UP	93	0.470179	1.776359	0.005929	0.058166
WP_INTEGRATED_CANCER_PATHWAY	44	0.528267	1.775353	0.018405	0.058172
MEBARKI_HCC_PROGENITOR_WNT_UP_CTNNB1_DEPENDENT	78	0.537813	1.773203	0.008403	0.058207
PID_DELTA_NP63_PATHWAY	46	0.503828	1.77546	0.001961	0.058232
ELVIDGE_HIF1A_TARGETS_DN	89	0.467559	1.776045	0.014553	0.058235
GAUSSMANN_MLL_AF4_FUSION_TARGETS_F_DN	37	0.507049	1.774963	0.004141	0.058296
MCCABE_HOXC6_TARGETS_DN	19	0.62105	1.77478	0.023576	0.058296
REACTOME_GPVI_MEDIATED_ACTIVATION_CASCADE	35	0.581009	1.773228	0.013645	0.058301
BIOCARTA_GLEEVEC_PATHWAY	23	0.558132	1.77341	0.009881	0.058302
REACTOME_RHO_GTPASES_ACTIVATE_FORMINS	137	0.533034	1.773752	0.039832	0.058336

SCHAEFFER_PROSTATE_DEVELOPMENT_12HR_DN	51	0.522317	1.773541	0.002132	0.058338
SHEDDEN_LUNG_CANCER_POOR_SURVIVAL_A6	441	0.601259	1.773864	0.04086	0.058378
MARZEC_IL2_SIGNALING_UP	114	0.440277	1.7743	0.006356	0.058405
HOWLIN_PUBERTAL_MAMMARY_GLAND	65	0.495598	1.771355	0.007984	0.058422
GRAHAM_CML_QUIESCENT_VS_CML_DIVIDING_UP	23	0.627605	1.77105	0.016327	0.058456
LI_CISPLATIN_RESISTANCE_DN	33	0.552262	1.770872	0.004132	0.058465
PID_EPHA2_FWD_PATHWAY	19	0.594179	1.771474	0.011928	0.058472
KYNG_DNA_DAMAGE_DN	177	0.409964	1.773886	<0.01	0.058473
SAKAI_CHRONIC_HEPATITIS_VS_LIVER_CANCER_UP	80	0.514118	1.772286	0.014113	0.058482
GAUSSMANN_MLL_AF4_FUSION_TARGETS_E_UP	97	0.449742	1.771846	0.005952	0.058485
SYED_ESTRADIOL_RESPONSE	18	0.594431	1.771607	0.012685	0.058498
HAHTOLA_MYCOSIS_FUNGOIDES_CD4_UP	59	0.540417	1.771869	0.01848	0.058575
GROSS_HYPOXIA_VIA_ELK3_ONLY_UP	33	0.539333	1.772305	0.012121	0.058577
REACTOME_MOLECULES_ASSOCIATED_WITH_ELASTIC_FIBRES	37	0.619886	1.770313	0.029412	0.058648

HORIUCHI_WTAP_TARGETS_DN	303	0.525249	1.77001	0.029167	0.058707
WP_TGFB_SIGNALING_IN_THYROID_CELLS_FOR_EPITHELIALMESENCHYMAL_TRANSITION	18	0.60915	1.769045	0.004184	0.058959
REACTOME_RESPONSE_TO_ELEVATED_PLATELET_CYTOSOLIC_CA2	130	0.454233	1.768812	0.003984	0.058972
MOLENAAR_TARGETS_OF_CCND1_AND_CDK4_DN	56	0.657676	1.769079	0.028513	0.059059
PID_AJDISS_2PATHWAY	48	0.494248	1.768195	0.006329	0.059184
IVANOVA_HEMATOPOIESIS_MATURE_CELL	279	0.383804	1.767632	0.002024	0.059281
DITTMER_PTHLH_TARGETS_UP	107	0.463372	1.767755	0.014706	0.05931
LENAOUR_DENDRITIC_CELL_MATURATION_DN	126	0.473613	1.767171	0.020121	0.059434
REACTOME_CELL_SURFACE_INTERACTIONS_AT_THE_VASCULAR_WALL	135	0.469791	1.766509	0.007797	0.059694
KEGG_NOD_LIKE_RECEPTOR_SIGNALING_PATHWAY	62	0.498666	1.764884	0.00996	0.060426
WP_MIRNAS_INVOLVEMENT_IN_THE_IMMUNE_RESPONSE_IN_SEPSIS	37	0.55952	1.764433	0.021912	0.060571
REACTOME_INTERLEUKIN_3_INTERLEUKIN_5_AND_GM_CSF_SIGNALING	47	0.54311	1.763644	0.029412	0.060686
REACTOME_GAP_JUNCTION_TRAFFICKING_AND_REGULATION	49	0.493673	1.764009	0.014315	0.060695
BIOCARTA_ARF_PATHWAY	17	0.590296	1.763809	0.007952	0.060699

CHEN_LVAD_SUPPORT_OF_FAILING_HEART_DN	42	0.52615	1.763398	0.009843	0.06073
WP_IL7_SIGNALING_PATHWAY	25	0.562744	1.762659	0.022901	0.061052
BIOCARTA_ECM_PATHWAY	19	0.62443	1.762346	0.006098	0.061136
PEDERSEN_METASTASIS_BY_ERBB2_ISOFORM_6	28	0.543186	1.761626	0.00616	0.061472
OSWALD_HEMATOPOIETIC_STEM_CELL_IN_COLLAGEN_GEL_UP	213	0.409083	1.760893	0.006098	0.061563
SMIRNOV_RESPONSE_TO_IR_6HR_DN	110	0.481127	1.760981	0.01417	0.061629
BURTON_ADIPOGENESIS_3	102	0.621666	1.760179	0.043033	0.061701
WESTON_VEGFA_TARGETS	92	0.46019	1.760252	0.010504	0.061779
PID_FCER1_PATHWAY	59	0.503152	1.759755	0.01848	0.061827
REACTOME_BASIGIN_INTERACTIONS	25	0.543536	1.757662	0.008097	0.062264
EPPERT_PROGENITOR	133	0.510869	1.757691	0.023454	0.062346
PID_ECADHERIN_KERATINOCYTE_PATHWAY	21	0.593994	1.75842	0.019569	0.062382
RICKMAN_HEAD_AND_NECK_CANCER_C	105	0.492456	1.757782	0.002066	0.062405
REACTOME_THE_ROLE_OF_NEF_IN_HIV_1_REPLICATION_AND_DISEASE_PATHOGENESIS	28	0.58975	1.758138	0.017964	0.062422

PID_NFAT_TFPATHWAY	44	0.54272	1.757972	0.018182	0.0624356
REACTOME_ACTIVATION_OF_BAD_AND_TRANSLOCATION_TO_MITOCHONDRIA	15	0.649857	1.757093	0.00823	0.06247
RUTELLA_RESPONSE_TO_HGF_VS_CSF2RB_AND_IL4_UP	402	0.428899	1.755885	0.01	0.062953
REACTOME_RHO_GTPASES_ACTIVATE_PAKS	21	0.601111	1.754542	0.016495	0.063512
KIM_MYCL1_AMPLIFICATION_TARGETS_DN	18	0.58582	1.754095	0.010267	0.063685
CROONQUIST_STROMAL_STIMULATION_UP	53	0.577066	1.753591	0.018405	0.063827
REACTOME_RECYCLING_PATHWAY_OF_L1	48	0.497017	1.753187	0.007797	0.06392
REACTOME_GAB1_SIGNALOSOME	17	0.635435	1.752916	0.017274	0.063967
ZHU_CMV_ALL_UP	105	0.469375	1.752516	0.01875	0.064076
KATSANOU_ELAVL1_TARGETS_DN	142	0.398242	1.751099	0.001996	0.06439
LANDIS_ERBB2_BREAST_TUMORS_324_DN	150	0.437028	1.751181	0.014463	0.064433
BLANCO_MELO_COVID19_BRONCHIAL_EPITHELIAL_CELLS_SARS_COV_2_INFECTION_UP	142	0.502095	1.751322	0.016736	0.064476
BILD_HRAS_ONCOGENIC_SIGNATURE	238	0.42983	1.749201	0.016293	0.064896
PROVENZANI_METASTASIS_DN	138	0.451081	1.749305	0.00207	0.06495

REACTOME_REGULATION_OF_HSF1_MEDIATED_HEAT_SHOCK_RESPONSE	80	0.500229	1.74931	0.014403	0.065052
WEIGEL_OXIDATIVE_STRESS_BY_TBH_AND_H2O2	35	0.514695	1.748529	0.011976	0.065062
PID_PI3K_PLC_TRK_PATHWAY	36	0.507136	1.748685	0.006	0.065083
PEDERSEN_METASTASIS_BY_ERBB2_ISOFORM_4	105	0.429949	1.749421	0.004082	0.065112
LINDSTEDT_DENDRITIC_CELL_MATURATION_C	61	0.467162	1.749477	0.014056	0.065181
LAU_APOPTOSIS_CDKN2A_UP	55	0.472644	1.747999	0.014228	0.065242
PID_INTEGRIN_CS_PATHWAY	26	0.661505	1.747123	0.010331	0.065596
HUANG_FOXA2_TARGETS_DN	38	0.568954	1.746613	0.024291	0.065669
QI_PLASMACYTOMA_DN	94	0.433022	1.746779	0.009881	0.065678
NABA_COLLAGENS	44	0.635307	1.744418	0.031809	0.066414
LANDIS_BREAST_CANCER_PROGRESSION_DN	71	0.501901	1.744621	0.029167	0.06649
BIOCARTA_PDGF_PATHWAY	28	0.545177	1.744775	0.011765	0.066511
REACTOME_COLLAGEN_CHAIN_TRIMERIZATION	44	0.635307	1.744418	0.031809	0.06652
WP_NANOPARTICLEMEDIATED_ACTIVATION_OF_RECEPTOR_SIGNALING	28	0.548084	1.743492	0.010309	0.066886

PID_GMCSF_PATHWAY	35	0.528422	1.742467	0.010183	0.067305
LU_AGING_BRAIN_UP	254	0.414084	1.741767	<0.01	0.067439
MAHADEVAN_IMATINIB_RESISTANCE_UP	20	0.610019	1.74181	0.007952	0.067516
GROSS_HYPOXIA_VIA_HIF1A_DN	104	0.42875	1.741316	0.00818	0.067537
MCCABE_HOXC6_TARGETS_CANCER_DN	20	0.60418	1.740815	0.012903	0.0676
HIRSCH_CELLULAR_TRANSFORMATION_SIGNATURE_UP	238	0.420463	1.740994	0.018443	0.067628
PID_EPHRINB_REV_PATHWAY	30	0.54211	1.739323	0.014315	0.068048
PID_INSULIN_GLUCOSE_PATHWAY	26	0.515816	1.739468	0.009671	0.068065
SUNG_METASTASIS_STROMA_DN	52	0.551847	1.73875	0.027197	0.068355
YAO_TEMPORAL_RESPONSE_TO_PROGESTERONE_CLUSTER_16	78	0.484484	1.738523	0.024145	0.06836
AMIT_EGF_RESPONSE_480_MCF10A	43	0.507261	1.738148	0.008734	0.0685
PUJANA_BREAST_CANCER_LIT_INT_NETWORK	100	0.521873	1.737847	0.032051	0.068557
TAVOR_CEBPA_TARGETS_UP	49	0.51485	1.737549	0.006303	0.06863
LINSLEY_MIR16_TARGETS	203	0.416569	1.737157	0.010309	0.06865

REACTOME_PROGRAMMED_CELL_DEATH	199	0.428636	1.736421	0.016461	0.068665
SNIJDERS_AMPLIFIED_IN_HEAD_AND_NECK_TUMORS	37	0.537125	1.735933	0.002024	0.06872
REACTOME_SIGNALING_BY_ERBB2_IN_CANCER	26	0.536203	1.737198	0.007843	0.068741
REACTOME_DDX58_IFIH1_MEDIATED_INDUCTION_OF_INTERFERON_ALPHA_BETA	68	0.453867	1.736445	0.006224	0.06876
WP_EPITHELIAL_TO_MESENCHYMAL_TRANSITION_IN_COLORECTAL_CANCER	157	0.402631	1.736627	0.002114	0.068764
SUNG_METASTASIS_STROMA_UP	106	0.447012	1.734738	0.010482	0.068764
WP_SIGNALING_OF_HEPATOCYTE_GROWTH_FACTOR_RECEPTOR	34	0.528166	1.735054	0.008214	0.06877
YAMAZAKI_TCEB3_TARGETS_UP	162	0.412005	1.735429	0.018109	0.068789
FARMER_BREAST_CANCER_CLUSTER_3	16	0.615969	1.735635	0.012552	0.068792
WP_P38_MAPK_SIGNALING_PATHWAY	34	0.493682	1.736764	0.003992	0.068805
TANG_SENESCENCE_TP53_TARGETS_DN	53	0.659528	1.735207	0.049251	0.068807
TIEN_INTESTINE_PROBIOTICS_6HR_DN	167	0.411409	1.735962	0.008163	0.068818
MATSUDA_NATURAL_KILLER_DIFFERENTIATION	464	0.357474	1.734768	<0.01	0.068847
SHETH_LIVER_CANCER_VS_TXNIP_LOSS_PAM2	163	0.387476	1.733484	0.004219	0.068922

LEE_LIVER_CANCER_SURVIVAL_DN	171	0.52866	1.733712	0.032193	0.068922
REACTOME_ROLE_OF_LAT2_NTAL_LAB_ON_CALCIUM_MOBILIZATION	16	0.640427	1.733866	0.013233	0.068943
SHAFFER_IRF4_TARGETS_IN_ACTIVATED_B_LYMPHOCYTE	76	0.493949	1.732886	0.016842	0.068976
PID_NOTCH_PATHWAY	58	0.463091	1.733999	0.012448	0.06898
VETTER_TARGETS_OF_PRKCA_AND_ETS1_UP	16	0.619541	1.733193	0.020202	0.068987
FARMER_BREAST_CANCER_CLUSTER_4	19	0.890448	1.732977	0.006263	0.069016
REACTOME_INTERLEUKIN_10_SIGNALING	45	0.614209	1.734062	0.015842	0.069041
BLANCO_MELO_COVID19_SARS_COV_2_INFECTION_CALU3_CELLS_UP	312	0.468671	1.731985	0.040698	0.06937
VETTER_TARGETS_OF_PRKCA_AND_ETS1_DN	16	0.617195	1.73178	0.014199	0.069396
PID_NEPHRIN_NEPH1_PATHWAY	29	0.516888	1.73158	0.009823	0.069407
NEWMAN_ERCC6_TARGETS_DN	36	0.583354	1.730859	0.020284	0.069591
PID_PRL_SIGNALING_EVENTS_PATHWAY	23	0.559059	1.730448	0.006356	0.069712
REACTOME_RHOB_GTPASE_CYCLE	70	0.474085	1.730004	0.022044	0.069816
PODAR_RESPONSE_TO_ADAPHOSTIN_UP	137	0.441357	1.730101	0.022358	0.069862

GENTILE_UV_LOW_DOSE_DN	63	0.515653	1.729551	0.018256	0.069969
HERNANDEZ_ABERRANT_MITOSIS_BY_DOCETACEL_2NM_UP	67	0.474968	1.728301	0.012	0.07051
NAKAMURA_ADIPOGENESIS_EARLY_DN	34	0.603666	1.728103	0.029536	0.07054
PID_SHP2_PATHWAY	57	0.476944	1.727281	0.012346	0.070923
WANG_LMO4_TARGETS_DN	343	0.412565	1.72656	0.004167	0.071212
STEIN_ESRRA_TARGETS_RESPONSIVE_TO_ESTROGEN_DN	41	0.600746	1.724554	0.049485	0.072262
BERTUCCI_MEDULLARY_VS_DUCTAL_BREAST_CANCER_DN	165	0.496353	1.723979	0.035644	0.072513
BROWNE_HCMV_INFECTION_24HR_DN	139	0.435905	1.723531	0.014113	0.072681
SHETH_LIVER_CANCER_VS_TXNIP_LOSS_PAM1	256	0.365052	1.723146	0.002008	0.072752
OISHI_CHOLANGIOMA_STEM_CELL_LIKE_DN	266	0.446832	1.722719	0.02454	0.072901
PID_EPO_PATHWAY	33	0.5435	1.722324	0.025591	0.073027
PID_HIF1_TFPATHWAY	66	0.456944	1.720555	0.006237	0.07387
GROSS_HYPOXIA_VIA_ELK3_UP	204	0.385565	1.720277	0.008147	0.073922
HOOI_ST7_TARGETS_UP	88	0.433268	1.71975	0.008214	0.074163

NADLER_OBESITY_UP	60	0.581907	1.719233	0.034343	0.07421
BRUNO_HEMATOPOIESIS	64	0.462482	1.719303	0.006329	0.074277
BILANGES_SERUM_SENSITIVE_VIA_TSC2	28	0.586493	1.7188	0.031311	0.07437
REACTOME_SIGNALING_BY_PDGFR_IN_DISEASE	20	0.602115	1.718502	0.023857	0.074409
WP_MAMMARY_GLAND_DEVELOPMENT_PATHWAY_EMBRYONIC_DEVELOPMENT_STAGE_1_OF_4	15	0.613228	1.717964	0.01417	0.07445
PID_IFNG_PATHWAY	40	0.49833	1.71758	0.01354	0.074471
STAMBOLSKY_TARGETS_OF_MUTATED_TP53_UP	46	0.481442	1.718127	0.002137	0.074471
PID_ANTHRAX_PATHWAY	17	0.580785	1.716914	0.009921	0.074496
BIOCARTA_NKCELLS_PATHWAY	20	0.649109	1.717637	0.027027	0.074532
TOMIDA_METASTASIS_UP	25	0.591749	1.716662	0.016495	0.074533
WP_HOSTPATHOGEN_INTERACTION_OF_HUMAN_CORONA_VIRUSES_INTERFERON_INDUCTION	33	0.549702	1.717247	0.029528	0.074543
ONDER_CDH1_SIGNALING_VIA_CTNNB1	83	0.491698	1.718154	0.02004	0.074552
REACTOME_POTENTIAL_THERAPEUTICS_FOR_SARS	81	0.401541	1.716988	0.003968	0.074568
LEE_LIVER_CANCER_DENA_UP	59	0.460743	1.71746	0.008493	0.074835

REACTOME_SYNTHESIS_OF_ACTIVE_UBIQUITIN_ROLES_OF_E1_AND_E2_ENZYMES	30	0.588505	1.715679	0.014862	0.074915
PID_ATF2_PATHWAY	58	0.452594	1.715006	0.013889	0.074973
REACTOME_CROSSLINKING_OF_COLLAGEN_FIBRILS	18	0.703088	1.715109	0.027451	0.075019
WP_GLUCOCORTICOID_RECEPTOR_PATHWAY	70	0.477503	1.715195	0.012295	0.07506
WP_ENDOCHONDRAL_OSSIFICATION_WITH_SKELETAL_DYSPLASIAS	63	0.47815	1.714436	0.012097	0.075153
WP_ENDOCHONDRAL_OSSIFICATION	63	0.47815	1.714436	0.012097	0.07526
WP_INTEGRINMEDIATED_CELL_ADHESION	101	0.446745	1.712937	0.008065	0.075994
WP_REGULATION_OF_TOLLLIKE_RECEPTOR_SIGNALING_PATHWAY	125	0.435668	1.712606	0.025641	0.076072
LIANG_SILENCED_BY_METHYLATION_UP	29	0.551506	1.711861	0.012526	0.076084
REACTOME_RAF_INDEPENDENT_MAPK1_3_ACTIVATION	23	0.520628	1.712048	0.031315	0.076092
REACTOME_GLYCOLYSIS	68	0.499189	1.712179	0.016632	0.076132
PID_IL2_PI3K_PATHWAY	34	0.520602	1.711198	0.007905	0.076154
REACTOME_FC_EPSILON_RECEPTOR_FCERI_SIGNALING	130	0.436223	1.711339	0.008386	0.076163
LI_WILMS_TUMOR_VS_FETAL_KIDNEY_2_DN	48	0.528113	1.711529	0.022403	0.07617

LIAO_HAVE_SOX4_BINDING_SITES	41	0.47795	1.712261	0.008081	0.076205
WP_GASTRIC_CANCER_NETWORK_2	31	0.569293	1.710242	0.025105	0.07667
REACTOME_GAP_JUNCTION_ASSEMBLY	36	0.505031	1.709482	0.006356	0.07696
REACTOME_NEUTROPHIL_DEGRANULATION	469	0.421768	1.709633	0.018443	0.076971
ALONSO_METASTASIS_NEURAL_UP	18	0.579982	1.708983	0.02045	0.077032
REACTOME_DISEASES_OF_SIGNAL_TRANSDUCTION_BY_GROWTH_FACTOR_RECEPTORS_AND_SECOND_MESSENGERS	389	0.35774	1.70909	<0.01	0.077067
WP_CELL_MIGRATION_AND_INVASION_THROUGH_P75NTR	30	0.510057	1.708543	0.012448	0.077222
MARKS_HDAC_TARGETS_DN	15	0.636074	1.708147	0.014989	0.077304
REACTOME_SEMAPHORIN_INTERACTIONS	64	0.458351	1.707412	0.023857	0.077378
DELYS_THYROID_CANCER_UP	436	0.418658	1.707227	0.024242	0.07742
OLSSON_E2F3_TARGETS_DN	32	0.550972	1.706985	0.027601	0.077475
HAN_JNK_SINGALING_DN	39	0.509447	1.707606	0.004065	0.077485
KIM_WT1_TARGETS_12HR_UP	163	0.420595	1.705864	0.016427	0.077596
YAGI_AML_FAB_MARKERS	189	0.374842	1.706628	<0.01	0.077615

XU_HGF_SIGNALING_NOT_VIA_AKT1_6HR	25	0.597631	1.705955	0.033865	0.077657
DUNNE_TARGETS_OF_AML1_MTG8_FUSION_DN	19	0.573596	1.705365	0.023576	0.077701
TAKAO_RESPONSE_TO_UVB_RADIATION_DN	96	0.437217	1.706044	0.024793	0.077718
CUI_TCF21_TARGETS_UP	35	0.53789	1.706246	0.033126	0.077736
BEGUM_TARGETS_OF_PAX3_FOXO1_FUSION_DN	46	0.516647	1.70478	0.030612	0.077741
TSAI_RESPONSE_TO_RADIATION_THERAPY	30	0.573098	1.705117	0.02686	0.07775
WP_ONCOSTATIN_M_SIGNALING_PATHWAY	64	0.463116	1.705466	0.021739	0.077751
REACTOME_MYD88_INDEPENDENT_TLR4_CASCADE	97	0.4272	1.704886	0.002066	0.07778
WP_TYPE_I_INTERFERON_INDUCTION_AND_SIGNALING_DURING_SARSCOV2_INFECTION	29	0.539239	1.704304	0.034682	0.077928
PID_RET_PATHWAY	39	0.48614	1.703788	0.010267	0.078098
HERNANDEZ_ABERRANT_MITOSIS_BY_DOCETACEL_2NM_DN	22	0.561744	1.702435	0.009921	0.078361
SEITZ_NEOPLASTIC_TRANSFORMATION_BY_8P_DELETION_UP	70	0.523568	1.70306	0.025641	0.078362
MURAKAMI_UV_RESPONSE_6HR_DN	21	0.567443	1.702537	0.006036	0.078396
KEGG_GLIOMA	65	0.44215	1.702738	0.005825	0.078421

GHO_ATF5_TARGETS_DN	16	0.629851	1.703087	0.018293	0.07845
WHITFIELD_CELL_CYCLE_M_G1	120	0.442711	1.701903	0.022541	0.078631
WP_ARYL_HYDROCARBON_RECEPTOR_NETPATH	46	0.463083	1.701434	0.012371	0.078753
BIOCARTA_INTEGRIN_PATHWAY	34	0.536501	1.701282	0.020284	0.078756
PID_RHOA_PATHWAY	43	0.475702	1.70093	0.008032	0.078877
AMIT_SERUM_RESPONSE_60_MCF10A	56	0.491244	1.700763	0.027778	0.078896
KEGG_APOPTOSIS	84	0.431835	1.699542	0.010121	0.079429
REACTOME_ANCHORING_FIBRIL_FORMATION	15	0.70062	1.699616	0.017442	0.079469
THUM_MIR21_TARGETS_HEART_DISEASE_UP	17	0.765757	1.698793	0.043222	0.079619
WP_TCELL_ANTIGEN_RECEPTOR_TCR_SIGNALING_PATHWAY	88	0.485695	1.698421	0.038536	0.079625
WILLIAMS_ESR1_TARGETS_UP	26	0.550011	1.699056	0.018519	0.079634
GNATENKO_PLATELET_SIGNATURE	38	0.572127	1.698872	0.023555	0.079668
TSENG_IRS1_TARGETS_UP	109	0.424995	1.698517	0.002079	0.079694
GRAHAM_CML_DIVIDING_VS_NORMAL_QUIESCENT_DN	84	0.50295	1.698005	0.018256	0.079762

DORSEY_GAB2_TARGETS	30	0.552301	1.697667	0.013752	0.079867
BOQUEST_STEM_CELL_CULTURED_VS_FRESH_UP	414	0.394381	1.697428	0.008081	0.079891
JINESH_BLEBBISHIELD_TRANSFORMED_STEM_CELL_SPHERES_UP	167	0.421773	1.69668	0.022495	0.080246
BIOCARTA_BCELLSURVIVAL_PATHWAY	15	0.590772	1.696278	0.01222	0.080346
DEBIASI_APOPTOSIS_BY_REOVIRUS_INFECTION_UP	284	0.421331	1.69601	0.016162	0.080409
BURTON_ADIPOGENESIS_11	51	0.488595	1.694912	0.017308	0.080886
PLASARI_TGFB1_TARGETS_10HR_DN	247	0.399857	1.695008	0.007905	0.080927
LEE_LIVER_CANCER_MYC_E2F1_UP	56	0.448044	1.694656	0.006085	0.080954
BIOCARTA_CASPASE_PATHWAY	22	0.581292	1.694309	0.01378	0.080958
NABA_BASEMENT_MEMBRANES	40	0.590501	1.693763	0.028226	0.080976
HASLINGER_B_CLL_WITH_11Q23_DELETION	22	0.591706	1.694084	0.016886	0.080998
MATTHEWS_AP1_TARGETS	17	0.58644	1.693897	0.024242	0.081004
LIU_TARGETS_OF_VMYB_VS_CMYB_DN	41	0.493664	1.69347	0.012097	0.081011
WP_PLATELETMEDIATED_INTERACTIONS_WITH_VASCULAR_AND_CIRCULATING_CELLS	17	0.727514	1.694361	0.006098	0.081032

NAKAYAMA_FRA2_TARGETS	46	0.450741	1.69261	0.006085	0.081413
GARGALOVIC_RESPONSE_TO_OXIDIZED_PHOSPHOLIPIDS_TURQUOISE_UP	79	0.465985	1.692146	0.021782	0.081454
RUTELLA_RESPONSE_TO_HGF_VS_CSF2RB_AND_IL4_DN	242	0.374811	1.691848	0.012245	0.081509
REACTOME_APOPTOSIS	170	0.42978	1.692228	0.02714	0.081523
ICHIBA_GRAFT_VERSUS_HOST_DISEASE_35D_UP	142	0.525128	1.691154	0.042084	0.081811
BYSTROEM_CORRELATED_WITH_IL5_DN	57	0.503499	1.690722	0.015936	0.081881
BIOCARTA_CELLCYCLE_PATHWAY	23	0.597115	1.690738	0.020492	0.081983
BERENJENO_ROCK_SIGNALING_NOT_VIA_RHOA_DN	47	0.514908	1.690144	0.02459	0.082004
JI_CARCINOGENESIS_BY_KRAS_AND_STK11_DN	17	0.708104	1.690246	0.035573	0.082059
WP_IL3_SIGNALING_PATHWAY	48	0.487345	1.689834	0.034951	0.082087
MARTORIATI_MDM4_TARGETS_NEUROEPITHELIUM_UP	167	0.386449	1.689417	0.00625	0.082239
WP_LEPTIN_SIGNALING_PATHWAY	76	0.43203	1.68909	0.009901	0.082337
RODWELL_AGING_KIDNEY_UP	457	0.462873	1.6886	0.042339	0.082519
BURTON_ADIPOGENESIS_PEAK_AT_0HR	60	0.498138	1.688226	0.025105	0.082647

MCDOWELL_ACUTE_LUNG_INJURY_UP	45	0.516067	1.686929	0.03006	0.08317
REACTOME_SIGNALING_BY_NTRKS	133	0.398811	1.687038	0.01992	0.083203
PID_FOXM1_PATHWAY	39	0.560249	1.687101	0.044025	0.083271
WP_INTEGRATED_BREAST_CANCER_PATHWAY	152	0.399407	1.685925	0.00207	0.083573
ENK_UV_RESPONSE_KERATINOCYTE_DN	467	0.418008	1.685672	0.016529	0.08364
BIOCARTA_PTEN_PATHWAY	18	0.620642	1.684977	0.018219	0.08392
REACTOME_OVARIAN_TUMOR_DOMAIN_PROTEASES	38	0.478899	1.683129	0.013619	0.08408
WP_MAPK_SIGNALING_PATHWAY	242	0.359738	1.683306	0.005848	0.084095
REACTOME_RHO_GTPASES_ACTIVATE_PKNS	34	0.504319	1.683612	0.010395	0.084169
BIOCARTA_IL1R_PATHWAY	30	0.522181	1.683332	0.02863	0.084171
HIRSCH_CELLULAR_TRANSFORMATION_SIGNATURE_DN	100	0.408403	1.68342	0.008247	0.084215
TAKEDA_TARGETS_OF_NUP98_HOXA9_FUSION_3D_DN	29	0.597382	1.683623	0.038835	0.084269
PID_AURORA_A_PATHWAY	31	0.556521	1.683878	0.030364	0.084332
LY_AGING_PREMATURE_DN	29	0.626066	1.684178	0.037113	0.084345

WP_PDGFRBETA_PATHWAY	29	0.528941	1.683635	0.023077	0.084362
XU_GH1_AUTOCRINE_TARGETS_DN	124	0.391807	1.681195	0.012685	0.084744
SAGIV_CD24_TARGETS_DN	45	0.504021	1.68128	0.027254	0.084794
PID_KIT_PATHWAY	52	0.474452	1.68134	0.027723	0.084865
SEIDEN_MET_SIGNALING	19	0.595065	1.681465	0.024341	0.084898
REACTOME_CD209_DC_SIGN_SIGNALING	20	0.555552	1.681549	0.022541	0.084938
SENESE_HDAC1_AND_HDAC2_TARGETS_DN	212	0.399696	1.680105	0.012	0.085269
WP_MAMMARY_GLAND_DEVELOPMENT_PATHWAY_PREGNANCY_AND_LACTATION_STAGE_3_OF_4	31	0.483733	1.679906	0.00625	0.085297
AMIT_EGF_RESPONSE_240_MCF10A	21	0.572702	1.679359	0.004167	0.085423
REACTOME_SIGNALING_BY_HIPPO	20	0.608205	1.679153	0.023121	0.085444
WU_HBX_TARGETS_1_DN	22	0.517819	1.679363	0.022	0.085528
LEONARD_HYPOXIA	40	0.537398	1.677479	0.02454	0.085977
WP_HYPERTROPHY_MODEL	18	0.593622	1.677534	0.031579	0.086047
NAKAMURA_ADIPOGENESIS_LATE_DN	34	0.573684	1.677146	0.035714	0.086106

WP_SEROTONIN_RECEPTOR_467_AND_NR3C_SIGNALING	19	0.539712	1.677629	0.011385	0.08611
ONDER_CDH1_TARGETS_2_UP	248	0.46707	1.677823	0.035343	0.086125
WAMUNYOKOLI_OVARIAN_CANCER_LMP_DN	192	0.470066	1.676808	0.037328	0.086196
TOMLINS_PROSTATE_CANCER_DN	38	0.534174	1.675683	0.022917	0.086688
SESTO_RESPONSE_TO_UV_C3	19	0.59585	1.675133	0.041408	0.086918
WP_IL1_AND_MEGAKARYOCYTES_IN_OBESITY	24	0.59095	1.672769	0.022403	0.086922
BIOCARTA_EDG1_PATHWAY	22	0.545946	1.67255	0.01165	0.086949
ENGELMANN_CANCER_PROGENITORS_UP	47	0.441082	1.672801	0.005952	0.086989
AMIT_EGF_RESPONSE_120_MCF10A	41	0.501965	1.674357	0.029228	0.08702
YU_BAP1_TARGETS	29	0.560528	1.673665	0.047423	0.087029
ALFANO_MYC_TARGETS	233	0.378303	1.67478	0.004211	0.087041
REACTOME_RAC1_GTPASE_CYCLE	181	0.415064	1.674025	0.025391	0.087051
WP_OVERVIEW_OF_NANOPARTICLE_EFFECTS	19	0.561401	1.674441	0.018293	0.087063
BLANCO_MELO_COVID19_SARS_COV_2_INFECTION_A594_CELLS_UP	78	0.446328	1.672838	0.015564	0.087063

REACTOME_SIGNALING_BY_CYTOSOLIC_FGFR1_FUSION_MUTANTS	17	0.60824	1.673788	0.023033	0.087072
KANNAN_TP53_TARGETS_DN	22	0.535096	1.672888	0.020325	0.087118
WANG_CISPLATIN_RESPONSE_AND_XPC_DN	214	0.365328	1.67407	0.006186	0.087119
BIOCARTA_MAPK_PATHWAY	81	0.408603	1.674541	0.01378	0.087121
WP_IL5_SIGNALING_PATHWAY	40	0.486593	1.673005	0.02381	0.087154
STEIN_ESRRA_TARGETS_RESPONSIVE_TO_ESTROGEN_UP	29	0.50588	1.670273	0.01626	0.08822
PID_EPHA_FWDPATHWAY	34	0.492964	1.670046	0.024341	0.088297
WP_INFLAMMATORY_RESPONSE_PATHWAY	30	0.617582	1.669065	0.045643	0.088625
WP_OVERVIEW_OF_INTERFERONSMEDIATED_SIGNALING_PATHWAY	22	0.609905	1.669319	0.044527	0.088631
BROWN_MYELOID_CELL_DEVELOPMENT_UP	159	0.478444	1.668785	0.04466	0.088676
VALK_AML_CLUSTER_11	37	0.523896	1.669087	0.020408	0.088708
PID_NFAT_3PATHWAY	53	0.450145	1.668357	0.017682	0.08877
ANDERSEN_CHOLANGIOCARCINOMA_CLASS2	174	0.478988	1.667721	0.045161	0.088865
REACTOME_PURINERGIC_SIGNALING_IN_LEISHMANIASIS_INFECTION	26	0.570896	1.667826	0.027668	0.089088

WEINMANN_ADAPTATION_TO_HYPOXIA_DN	38	0.50473	1.667424	0.021645	0.088918
HOFFMANN_PRE_BI_TO_LARGE_PRE_BII_LYMPHOCYTE_DN	75	0.433355	1.667838	0.014085	0.089001
TONKS_TARGETS_OF_RUNX1_RUNX1T1_FUSION_MONOCYTE_UP	201	0.407802	1.667098	0.019355	0.089007
NAKAMURA_ADIPOGENESIS_LATE_UP	94	0.394349	1.666569	0.010163	0.089264
VANTVEER_BREAST_CANCER_POOR_PROGNOSIS	46	0.492921	1.66633	0.04008	0.08931
DAVIES_MULTIPLE_MYELOMA_VS_MGUS_DN	26	0.604459	1.665762	0.041016	0.0896
HASLINGER_B_CLL_WITH_13Q14_DELETION	24	0.503484	1.665471	0.017893	0.089637
CONCANNON_APOPTOSIS_BY_EPOXOMICIN_UP	232	0.371618	1.664625	0.014141	0.09008
FOSTER_TOLERANT_MACROPHAGE_UP	162	0.399036	1.662924	0.012245	0.090604
MCCLUNG_DELTA_FOSB_TARGETS_2WK	45	0.471685	1.662931	0.010246	0.090701
DER_IFN_BETA_RESPONSE_UP	102	0.47423	1.663442	0.042084	0.09076
REACTOME_RHOC_GTPASE_CYCLE	73	0.452624	1.663251	0.025052	0.090792
SERVITJA_LIVER_HNF1A_TARGETS_UP	133	0.377797	1.662949	0.014433	0.090796
PID_TXA2PATHWAY	56	0.502757	1.662964	0.038697	0.090887

REACTOME_THROMBOXANE_SIGNALLING_THROUGH_TP_RECEPTOR	24	0.510474	1.661555	0.018828	0.091425
WONG_PROTEASOME_GENE_MODULE	49	0.561004	1.660612	0.039175	0.09149
BIOCARTA_FMLP_PATHWAY	34	0.48916	1.661248	0.008247	0.091518
REACTOME_SIGNALING_BY_NTRK2_TRKB	25	0.526721	1.660811	0.020284	0.091579
REACTOME_NUCLEAR_SIGNALING_BY_ERBB4	31	0.475826	1.660836	0.011385	0.091668
BIOCARTA_IL2RB_PATHWAY	37	0.511434	1.660068	0.036609	0.091735
KEGG_NEUROTROPHIN_SIGNALING_PATHWAY	126	0.385346	1.659727	0.017375	0.09185
ZHONG_SECRETOME_OF_LUNG_CANCER_AND_FIBROBLAST	131	0.452813	1.659228	0.028807	0.091866
REACTOME_ATTENUATION_PHASE	27	0.559838	1.659525	0.030364	0.091868
WP_SIMPLIFIED_DEPICTION_OF_MYD88_DISTINCT_INPUTOUTPUT_PATHWAY	18	0.61648	1.659306	0.045726	0.091904
REACTOME_EPHRIN_SIGNALING	19	0.578708	1.658571	0.031373	0.092182
REACTOME_TRANSCRIPTIONAL_REGULATION_BY_RUNX2	118	0.443919	1.65827	0.022541	0.092298
SCHAEFFER_SOX9_TARGETS_IN_PROSTATE_DEVELOPMENT_DN	45	0.521741	1.657837	0.022495	0.092463
WP_INTERACTIONS_BETWEEN_IMMUNE_CELLS_AND_MICRORNAS_IN_TUMOR_MICROENVIRONMENT	28	0.622042	1.657275	0.034951	0.092658

ZHAN_MULTIPLE_MYELOMA_MF_UP	47	0.450721	1.656712	0.019763	0.09293
BIOCARTA_EGF_PATHWAY	27	0.510795	1.65627	0.023392	0.093105
WP_PHOTODYNAMIC_THERAPYINDUCED_NFKB_SURVIVAL_SIGNALING	35	0.53721	1.655995	0.029412	0.093183
NAKAMURA_CANCER_MICROENVIRONMENT_DN	40	0.596448	1.655348	0.046025	0.093474
ZHU_CMV_24_HR_UP	82	0.449996	1.654802	0.030801	0.093688
LIU_VMYB_TARGETS_UP	120	0.381328	1.653471	<0.01	0.094106
SHETH_LIVER_CANCER_VS_TXNIP_LOSS_PAM3	75	0.427937	1.65305	0.010438	0.094148
KEGG_NATURAL_KILLER_CELL_MEDIATED_CYTOTOXICITY	117	0.472283	1.653195	0.041502	0.094162
IZADPANAH_STEM_CELL_ADIPOSE_VS_BONE_DN	106	0.446441	1.653728	0.029661	0.094167
PHONG_TNF_RESPONSE_VIA_P38_COMPLETE	221	0.375385	1.653507	0.006173	0.09419
KEGG_P53_SIGNALING_PATHWAY	67	0.424088	1.653749	0.00823	0.094267
REACTOME_P130CAS_LINKAGE_TO_MAPK_SIGNALING_FOR_INTEGRINS	15	0.587469	1.652483	0.037344	0.094388
GOZGIT_ESR1_TARGETS_UP	137	0.393171	1.651987	0.010101	0.094627
ZHANG_PROLIFERATING_VS_QUIESCENT	48	0.507927	1.651755	0.027601	0.094633

BIOCARTA_HIVNEF_PATHWAY	56	0.442605	1.65145	0.019569	0.09477
DEN_INTERACT_WITH_LCA5	26	0.57931	1.651008	0.026971	0.094785
PANGAS_TUMOR_SUPPRESSION_BY_SMAD1_AND_SMAD5_UP	125	0.414764	1.651082	0.013672	0.094837
GAVIN_FOXP3_TARGETS_CLUSTER_T4	88	0.427329	1.651123	0.01222	0.094923
KENNY_CTNNB1_TARGETS_UP	49	0.431528	1.649655	0.018072	0.095341
GARGALOVIC_RESPONSE_TO_OXIDIZED_PHOSPHOLIPIDS_YELLOW_UP	29	0.548274	1.649955	0.016393	0.095371
CHEN_ETV5_TARGETS_SERTOLI	25	0.607161	1.649726	0.040619	0.095403
CAIRO_LIVER_DEVELOPMENT_UP	161	0.406184	1.648694	0.027484	0.095471
NEWMAN_ERCC6_TARGETS_UP	24	0.528124	1.648733	0.02714	0.095555
KUMAR_AUTOPHAGY_NETWORK	64	0.396092	1.64874	0.006173	0.095659
PETROVA_ENDOTHELIUM_LYMPHATIC_VS_BLOOD_UP	129	0.407539	1.648743	0.020833	0.095763
WP_NUCLEOTIDEBINDING_OLIGOMERIZATION_DOMAIN_NOD_PATHWAY	40	0.496906	1.647181	0.02554	0.096047
WP_TOLLLIKE_RECEPTOR_SIGNALING_RELATED_TO_MYD88	31	0.545896	1.647308	0.037624	0.096075
WP_RELATIONSHIP_BETWEEN_INFLAMMATION_COX2_AND_EGFR	25	0.491985	1.647442	0.013807	0.096103

CHEBOTAEV_GR_TARGETS_DN	120	0.393006	1.646705	0.006098	0.096257
CHANG_IMMORTALIZED_BY_HPV31_DN	59	0.45711	1.646263	0.012397	0.096342
REACTOME_HS_GAG_BIOSYNTHESIS	31	0.514225	1.645899	0.030246	0.096381
REACTOME_CHONDROITIN_SULFATE_DERMATAN_SULFATE_METABOLISM	50	0.486092	1.646324	0.034417	0.096406
NAM_FXYD5_TARGETS_DN	18	0.603218	1.645918	0.031712	0.096485
PID_AMB2_NEUTROPHILS_PATHWAY	40	0.530591	1.645525	0.040404	0.096505
DELACROIX_RAR_TARGETS_DN	24	0.516225	1.645179	0.023301	0.096552
REACTOME_CELLULAR_RESPONSE_TO_HEAT_STRESS	99	0.448523	1.644847	0.036735	0.096555
JAZAERI_BREAST_CANCER_BRCA1_VS_BRCA2_UP	47	0.467488	1.643868	0.023715	0.096602
DUTERTRE_ESTRADIOL_RESPONSE_6HR_UP	221	0.415156	1.64429	0.04375	0.096608
BIOCARTA_HIF_PATHWAY	15	0.583775	1.64524	0.019068	0.096613
TAKEDA_TARGETS_OF_NUP98_HOXA9_FUSION_6HR_DN	42	0.484749	1.644007	0.030829	0.096616
REACTOME_SMOOTH_MUSCLE_CONTRACTION	34	0.585174	1.644367	0.043841	0.096669
WP_ZINC_HOMEOSTASIS	34	0.502636	1.644495	0.028513	0.096676

MEBARKI_HCC_PROGENITOR_WNT_UP_CTNNB1_DEPENDENT_BLOCKED_BY_FZD8CRD	43	0.522029	1.64358	0.027311	0.096689
SASSON_RESPONSE_TO_GONADOTROPHINS_UP	84	0.412778	1.641803	0.013699	0.09773
IWANAGA_CARCINOGENESIS_BY_KRAS_PTEN_DN	341	0.339892	1.641899	0.003929	0.097761
REACTOME_DISEASES_ASSOCIATED_WITH_GLYCOSAMINOGLYCAN_METABOLISM	41	0.534319	1.640437	0.041176	0.098517
SCIAN_INVERSED_TARGETS_OF_TP53_AND_TP73_DN	30	0.483345	1.640155	0.023061	0.098583
REACTOME_PI3K_AKT_SIGNALING_IN_CANCER	104	0.390867	1.639778	0.011321	0.098746
REACTOME_SIGNALING_BY_ERBB2	50	0.437625	1.639318	0.015968	0.098868
QI_HYPOXIA_TARGETS_OF_HIF1A_AND_FOXA2	34	0.507289	1.639327	0.033797	0.098967
KOINUMA_COLON_CANCER_MSI_UP	16	0.617032	1.63895	0.028986	0.099022
WP_SIGNAL_TRANSDUCTION_THROUGH_IL1R	32	0.497797	1.638425	0.035491	0.099256
REACTOME_OTHER_SEMAPHORIN_INTERACTIONS	19	0.5991	1.637436	0.031873	0.099295
LIU_SOX4_TARGETS_UP	132	0.392084	1.637231	0.01626	0.099328
WEST_ADRENOCORTICAL_TUMOR_MARKERS_UP	22	0.62072	1.638023	0.039583	0.09933
JOSEPH_RESPONSE_TO_SODIUM_BUTYRATE_DN	59	0.433594	1.637689	0.00818	0.099338

LINDSTEDT_DENDRITIC_CELL_MATURATION_D	62	0.510326	1.637749	0.033531	0.099407
HUPER_BREAST_BASAL_VS_LUMINAL_UP	52	0.543708	1.638032	0.022727	0.099426
WP_NEOVASCULARISATION_PROCESSES	37	0.494839	1.636288	0.031513	0.099792
KAMIKUBO_MYELOID_MN1_NETWORK	19	0.536671	1.63585	0.023109	0.10001
GENTILE_UV_RESPONSE_CLUSTER_D4	53	0.479669	1.633272	0.036961	0.10147
BIOCARTA_TFF_PATHWAY	23	0.521863	1.63294	0.020121	0.101522
REACTOME_METAL_ION_SLC_TRANSPORTERS	26	0.505118	1.632943	0.021442	0.101626
ONDER_CDH1_TARGETS_2_DN	459	0.389172	1.632518	0.013917	0.101701
REACTOME_SIGNALING_BY_ERYTHROPOIETIN	25	0.542428	1.631691	0.046992	0.102122
REACTOME_RHO_GTPASES_ACTIVATE_IQGAPS	31	0.507321	1.631063	0.018634	0.102359
DACOSTA_UV_RESPONSE_VIA_ERCC3_TTD_DN	83	0.476007	1.631134	0.042718	0.102419
BLALOCK_ALZHEIMERS_DISEASE_INCIPIENT_UP	370	0.327957	1.629937	0.001916	0.102969
PID_FGF_PATHWAY	54	0.452023	1.629662	0.015686	0.103038
NAKAMURA_METASTASIS_MODEL_UP	42	0.482918	1.627965	0.038934	0.103651

PID_FRA_PATHWAY	37	0.49347	1.62864	0.029703	0.103694
YAMASHITA_METHYLATED_IN_PROSTATE_CANCER	61	0.462625	1.628176	0.014257	0.103697
REACTOME_NCAM_SIGNALING_FOR_NEURITE_OUT_GROWTH	63	0.456901	1.62802	0.03071	0.103711
PID_IL2_1PATHWAY	55	0.455933	1.628301	0.04251	0.103711
CHIANG_LIVER_CANCER_SUBCLASS_INTERFERON_UP	25	0.597105	1.625699	0.039175	0.105056
NAKAMURA_METASTASIS_MODEL_DN	42	0.459777	1.624765	0.022587	0.105459
WP_TNF_RELATED_WEAK_INDUCER_OF_APOPTOSIS_TWEAK_SIGNALING_PATHWAY	42	0.453313	1.624881	0.031683	0.10549
PID_ALK1_PATHWAY	25	0.522659	1.623883	0.035639	0.105508
REACTOME_SIGNALING_BY_FGFR1_IN_DISEASE	36	0.492066	1.623345	0.017857	0.10574
KEGG_PROSTATE_CANCER	89	0.404692	1.622736	0.007797	0.106044
IVANOVSKA_MIR106B_TARGETS	86	0.427731	1.622297	0.019841	0.106054
HAHTOLA_CTCL_CUTANEOUS	24	0.547088	1.62242	0.028986	0.106083
TORCHIA_TARGETS_OF_EWSR1_FLI1_FUSION_TOP20_DN	19	0.528189	1.622508	0.026	0.106116
GENTILE_UV_RESPONSE_CLUSTER_D1	17	0.543965	1.621588	0.032653	0.106429

SA_MMP_CYTOKINE_CONNECTION	15	0.676756	1.620883	0.034343	0.106609
PID_IL1_PATHWAY	34	0.49453	1.620315	0.026749	0.10677
BIOCARTA_PYK2_PATHWAY	27	0.480758	1.619746	0.023952	0.106825
KEGG_MAPK_SIGNALING_PATHWAY	261	0.341011	1.619375	0.004008	0.106864
PID_P38_MK2_PATHWAY	21	0.539037	1.619766	0.030426	0.106925
VERNELL_RETINOBLASTOMA_PATHWAY_DN	20	0.523173	1.619909	0.035789	0.106942
FULCHER_INFLAMMATORY_RESPONSE_LECTIN_VS_LPS_DN	436	0.399708	1.6191	0.035573	0.106972
WANG_ESOPHAGUS_CANCER_VS_NORMAL_DN	99	0.406786	1.618751	0.017613	0.106987
CHUNG_BLISTER_CYTOTOXICITY_UP	132	0.426552	1.61879	0.04142	0.10707
NABA_ECM_REGULATORS	228	0.399257	1.618014	0.012605	0.107097
REACTOME_INTERFERON_SIGNALING	186	0.428672	1.618274	0.037037	0.10713
GABRIELY_MIR21_TARGETS	284	0.482552	1.618025	0.046967	0.107194
REACTOME_MHC_CLASS_II_ANTIGEN_PRESENTATION	122	0.400672	1.618297	0.023166	0.107226
PID_AP1_PATHWAY	69	0.423294	1.616834	0.036	0.107601

WP_FGF23_SIGNALLING_IN_HYPOPHOSPHATEMIC_RICKETS_AND_RELATED_DISORDERS	20	0.5245	1.616942	0.018256	0.107651
CERVERA_SDHB_TARGETS_2	110	0.401744	1.616339	0.014344	0.107874
REACTOME_INFLAMMASOMES	21	0.580168	1.615727	0.0488	0.108054
CREIGHTON_ENDOCRINE_THERAPY_RESISTANCE_1	496	0.361608	1.614992	0.024845	0.10848
FERRANDO_HOX11_NEIGHBORS	23	0.59156	1.614495	0.038462	0.108679
REACTOME_GLYCOSAMINOGLYCAN_METABOLISM	124	0.415154	1.613743	0.024194	0.109049
JACKSON_DNMT1_TARGETS_DN	21	0.589503	1.613896	0.029474	0.109058
DAZARD_UV_RESPONSE_CLUSTER_G6	141	0.461657	1.613487	0.045635	0.109114
LAMB_CCND1_TARGETS	19	0.54888	1.612347	0.03125	0.109753
PID_TOLL_ENDOGENOUS_PATHWAY	24	0.550329	1.611201	0.04661	0.109833
PID_SYNDECAN_3_PATHWAY	17	0.524251	1.611255	0.031189	0.109899
LENAOUR_DENDRITIC_CELL_MATURATION_UP	114	0.430693	1.611551	0.035363	0.109902
WP_HAIR_FOLLICLE_DEVELOPMENT_ORGANOGENESIS_PART_2_OF_3	32	0.505966	1.611382	0.037657	0.10991
BIOCARTA_AKT_PATHWAY	22	0.514685	1.611974	0.036329	0.109918

GROSS_HIF1A_TARGETS_DN	26	0.52779	1.61175	0.040404	0.109953
HORIUCHI_WTAP_TARGETS_UP	286	0.372725	1.611566	0.015936	0.11
TONKS_TARGETS_OF_RUNX1_RUNX1T1_FUSION_HSC_UP	176	0.374165	1.610691	0.016032	0.110095
ZHONG_SECRETOME_OF_LUNG_CANCER_AND_ENDOTHELIUM	68	0.448157	1.610011	0.034409	0.11051
PEDERSEN_METASTASIS_BY_ERBB2_ISOFORM_3	18	0.54161	1.609744	0.043393	0.110588
SENGUPTA_NASOPHARYNGEAL_CARCINOMA_WITH_LMP1_UP	386	0.390379	1.608532	0.008097	0.110993
GARGALOVIC_RESPONSE_TO_OXIDIZED_PHOSPHOLIPIDS_GREY_DN	74	0.405289	1.608634	0.018789	0.111035
KIM_PTEN_TARGETS_UP	18	0.546543	1.608165	0.026749	0.111035
PID_TGFBR_PATHWAY	53	0.451706	1.608244	0.047904	0.111089
REACTOME_ESTROGEN_DEPENDENT_NUCLEAR_EVENTS_DOWNSTREAM_OF_ESR_MEMBRANE_SIGNALING	24	0.505537	1.607506	0.025845	0.111092
BIOCARTA_FCER1_PATHWAY	39	0.468264	1.607664	0.023529	0.111093
DESERT_EXTRACELLULAR_MATRIX_HEPATOCELLULAR_CARCINOMA_SUBCLASS_UP	22	0.559719	1.608744	0.042683	0.111169
REACTOME_NOD1_2_SIGNALING_PATHWAY	36	0.477792	1.607113	0.030426	0.111181
SHARMA_PILOCYTIC_ASTROCYTOMA_LOCATION_UP	27	0.519998	1.606821	0.03055	0.111307

HAN_SATB1_TARGETS_UP	411	0.325283	1.606656	0.006186	0.11131
NEMETH_INFLAMMATORY_RESPONSE_LPS_DN	29	0.483734	1.606392	0.024742	0.111388
CHEN_LUNG_CANCER_SURVIVAL	27	0.526064	1.606121	0.036717	0.111457
KEGG_UBIQUITIN_MEDIATED_PROTEOLYSIS	132	0.403766	1.605931	0.025052	0.111498
REACTOME_GLYCOGEN_SYNTHESIS	16	0.585868	1.605784	0.02766	0.111508
WP_AGERAGE_PATHWAY	66	0.429288	1.602657	0.020243	0.111977
COATES_MACROPHAGE_M1_VS_M2_UP	83	0.414924	1.602309	0.022222	0.11204
HUTTMANN_B_CLL_POOR_SURVIVAL_DN	57	0.445736	1.602881	0.019881	0.11205
KEGG_GAP_JUNCTION	86	0.397984	1.60236	0.022312	0.112108
GRESHOCK_CANCER_COPY_NUMBER_UP	316	0.363812	1.602927	0.016032	0.112127
REACTOME_ESR_MEDIATED_SIGNALING	161	0.362217	1.601666	0.006	0.11218
KANG_DOXORUBICIN_RESISTANCE_DN	19	0.606634	1.604559	0.045908	0.112196
BIOCARTA_CHEMICAL_PATHWAY	18	0.531979	1.604422	0.033333	0.112235
HONRADO_BREAST_CANCER_BRCA1_VS_BRCA2	16	0.590874	1.604214	0.040404	0.112279

RORIE_TARGETS_OF_EWSR1_FLI1_FUSION_UP	27	0.499057	1.604057	0.026316	0.112282
WP_CHEMOKINE_SIGNALING_PATHWAY	162	0.406902	1.603383	0.045361	0.112336
PID_THROMBIN_PAR1_PATHWAY	43	0.472088	1.603194	0.031746	0.11235
PID_CASPASE_PATHWAY	51	0.437802	1.603496	0.016667	0.112379
PID_REELIN_PATHWAY	28	0.511806	1.603619	0.027254	0.112389
REACTOME_RHOA_GTPASE_CYCLE	148	0.386717	1.603756	0.026531	0.112393
REACTOME_N_GLYCAN_ANTENNAE_ELONGATION	15	0.576732	1.60051	0.032922	0.112422
ISSAEVA_MLL2_TARGETS	59	0.445087	1.601005	0.026263	0.112564
BIOCARTA_STATHMIN_PATHWAY	19	0.568417	1.600697	0.048421	0.112613
WANG_NEOPLASTIC_TRANSFORMATION_BY_CCND1_MYC	22	0.553129	1.600819	0.034553	0.112624
PUIFFE_INVASION_INHIBITED_BY_ASCITES_UP	72	0.435241	1.599768	0.031056	0.112902
ZWANG_CLASS_2_TRANSIENTLY_INDUCED_BY_EGF	47	0.442118	1.599622	0.028169	0.112903
WIERENGA_STAT5A_TARGETS_GROUP1	122	0.371268	1.599422	0.017857	0.112919
REACTOME_NEF_MEDIATES_DOWN_MODULATION_OF_CELL_SURFACE_RECEPTORS_BY_RECRUITING_THEM_TO_CLATHRIN_ADAPTERS	21	0.557107	1.599206	0.047151	0.112951

GRYDER_PAX3FOXO1_ENHANCERS_KO_DOWN	426	0.357246	1.598836	0.012685	0.113005
GENTILE_UV_RESPONSE_CLUSTER_D2	37	0.477294	1.598495	0.022312	0.113171
WP_REGULATION_OF_APOPTOSIS_BY_PARATHYROID_HORMONERELATED_PROTEIN	22	0.515021	1.598216	0.033684	0.113255
GRYDER_PAX3FOXO1_TOP_ENHANCERS	426	0.357769	1.597845	0.012295	0.11341
STEIN_ESRRA_TARGETS_DN	97	0.381837	1.596918	0.016032	0.113431
REACTOME_CDC42_GTPASE_CYCLE	158	0.39983	1.596949	0.02907	0.113512
THEILGAARD_NEUTROPHIL_AT_SKIN_WOUND_DN	224	0.346519	1.596964	0.017717	0.113604
PID_NCADHERIN_PATHWAY	33	0.493565	1.597146	0.025794	0.113789
REACTOME_RUNX2_REGULATES_OSTEOBLAST_DIFFERENTIATION	23	0.503089	1.595981	0.033465	0.113873
WP_LTF_DANGER_SIGNAL_RESPONSE_PATHWAY	18	0.596521	1.595652	0.044177	0.11399
PID_P38_ALPHA_BETA_DOWNSTREAM_PATHWAY	38	0.439608	1.595243	0.016632	0.114205
GARGALOVIC_RESPONSE_TO_OXIDIZED_PHOSPHOLIPIDS_GREEN_UP	27	0.51278	1.594547	0.04466	0.114339
PID_LIS1_PATHWAY	28	0.500089	1.594728	0.042683	0.114436
KYNG_DNA_DAMAGE_BY_4NQO_OR_UV	59	0.406994	1.593929	0.013619	0.114469

SCHAEFFER_PROSTATE_DEVELOPMENT_6HR_UP	154	0.384316	1.593627	0.028866	0.114585
REACTOME_RND3_GTPASE_CYCLE	42	0.466954	1.593289	0.035714	0.11472
MARTIN_NFKB_TARGETS_UP	44	0.43378	1.592379	0.011811	0.115153
WP_MBDNF_AND_PROBDNF_REGULATION_OF_GABA_NEUROTRANSMISSION	37	0.463943	1.592191	0.023483	0.115185
BASSO_HAIRY_CELL_LEUKEMIA_UP	77	0.452735	1.591396	0.032323	0.115672
BIOCARTA_RACCYCD_PATHWAY	26	0.507779	1.589775	0.020704	0.116342
MCBRYAN_PUBERTAL_BREAST_6_7WK_UP	182	0.386038	1.590276	0.028926	0.116389
LANDIS_ERBB2_BREAST_TUMORS_65_DN	39	0.472819	1.589877	0.035343	0.116466
REACTOME_THROMBIN_SIGNALLING_THROUGH_PROTEINASE_ACTIVATED_RECEPTORS_PARS	32	0.445999	1.589987	0.023013	0.11649
BOYLAN_MULTIPLE_MYELOMA_D_UP	84	0.383121	1.589389	0.01004	0.116504
QI_HYPOXIA	131	0.374369	1.58869	0.018595	0.116522
PID_TELOMERASE_PATHWAY	67	0.435346	1.588959	0.029228	0.116526
PID_BCR_5PATHWAY	63	0.463058	1.589188	0.044266	0.116559
RASHI_RESPONSE_TO_IONIZING_RADIATION_2	120	0.395071	1.588972	0.035928	0.116627

SMID_BREAST_CANCER_RELAPSE_IN_BRAIN_UP	39	0.482685	1.587414	0.03	0.116941
IVANOVA_HEMATOPOIESIS_LATE_PROGENITOR	492	0.360138	1.58762	0.027254	0.116998
SENESE_HDAC2_TARGETS_DN	117	0.396508	1.587008	0.026585	0.11712
REACTOME_CONSTITUTIVE_SIGNALING_BY_ABERRANT_PI3K_IN_CANCER	77	0.424384	1.586199	0.023392	0.117326
BIOCARTA_RAS_PATHWAY	22	0.527843	1.586033	0.036735	0.117372
REACTOME_MAPK_FAMILY_SIGNALING_CASCADES	318	0.3194	1.586261	<0.01	0.117377
WILLERT_WNT_SIGNALING	21	0.498758	1.586508	0.034261	0.117413
DAZARD_RESPONSE_TO_UV_SCC_DN	111	0.421105	1.585807	0.039761	0.11745
BIOCARTA_MCALPAIN_PATHWAY	18	0.55448	1.585361	0.027559	0.117471
GUO_HEX_TARGETS_UP	77	0.397165	1.585591	0.031621	0.117508
HALMOS_CEBPA_TARGETS_UP	46	0.449985	1.584006	0.03012	0.117538
MOHANKUMAR_HOXA1_TARGETS_UP	393	0.38615	1.585372	0.045549	0.117566
REACTOME_C_TYPE_LECTIN_RECEPTORS_CLRS	138	0.402958	1.584069	0.044681	0.117593
WP_PROSTAGLANDIN_SYNTHESIS_AND_REGULATION	45	0.462643	1.584613	0.045267	0.117622

REACTOME_DEFECTIVE_B4GALT7_CAUSES_EDS_PROGEROID_TYPE	20	0.580745	1.584178	0.040307	0.117628
BALDWIN_PRKCI_TARGETS_UP	37	0.460667	1.584339	0.018711	0.117717
TSENG_ADIPOGENIC_POTENTIAL_DN	47	0.485461	1.583504	0.042945	0.117822
GAJATE_RESPONSE_TO_TRABECTEDIN_DN	17	0.57097	1.582777	0.047917	0.11818
MARKS_HDAC_TARGETS_UP	21	0.50651	1.581582	0.032389	0.118231
WP_ARRHYTHMOGENIC_RIGHT_VENTRICULAR_CARDIOMYOPATHY	73	0.449196	1.581699	0.035343	0.118264
KEGG_CYTOKINE_CYTOKINE_RECEPTOR_INTERACTION	243	0.42302	1.581863	0.049116	0.118367
KEGG_ARRHYTHMOGENIC_RIGHT_VENTRICULAR_CARDIOMYOPATHY_ARVC	73	0.449196	1.581699	0.035343	0.118368
DOUGLAS_BMI1_TARGETS_DN	306	0.348046	1.581932	0.01222	0.118413
TIEN_INTESTINE_PROBIOTICS_2HR_DN	88	0.418787	1.580865	0.032389	0.118677
TORCHIA_TARGETS_OF_EWSR1_FLI1_FUSION_DN	303	0.343842	1.580444	0.013944	0.118866
KEGG_ENDOMETRIAL_CANCER	52	0.431568	1.579711	0.040161	0.119343
REACTOME_TOLL_LIKE_RECEPTOR_9_TLR9_CASCADE	94	0.388453	1.578799	0.024948	0.119513
REACTOME_METABOLISM_OF_CARBOHYDRATES	286	0.344141	1.578546	0.018293	0.119597

HAHTOLA_MYCOSIS_FUNGOIDES_SKIN_UP	174	0.362247	1.578963	0.026971	0.119602
KEGG_ERBB_SIGNALING_PATHWAY	87	0.388465	1.579054	0.028249	0.119632
ROZANOV_MMP14_TARGETS_UP	254	0.369242	1.578034	0.023256	0.119694
WP_NOTCH_SIGNALING_PATHWAY_NETPATH	61	0.420404	1.578099	0.035052	0.119738
BOYLAN_MULTIPLE_MYELOMA_C_DN	55	0.408426	1.578181	0.013807	0.119779
BIOCARTA_TID_PATHWAY	19	0.5338	1.577531	0.035644	0.119861
REACTOME_NETRIN_1_SIGNALING	48	0.429764	1.57706	0.030364	0.119926
WP_ALZHEIMERS_DISEASE	80	0.38017	1.577238	0.014085	0.119984
PARENT_MTOR_SIGNALING_DN	44	0.435909	1.577061	0.039293	0.120029
DOANE_BREAST_CANCER_ESR1_DN	46	0.469386	1.576511	0.024291	0.120105
BIOCARTA_IGF1R_PATHWAY	22	0.504785	1.576063	0.046218	0.120268
WP_FIBRIN_COMPLEMENT_RECEPTOR_3_SIGNALING_PATHWAY	41	0.485292	1.573154	0.03854	0.121507
HOFMANN_CELL_LYMPHOMA_UP	44	0.459849	1.573572	0.030108	0.121711
LEE_METASTASIS_AND_ALTERNATIVE_SPLICING_UP	73	0.401652	1.572423	0.011928	0.121856

WANG_RESPONSE_TO_FORSKOLIN_UP	22	0.526697	1.572255	0.041068	0.121897
WP_STRUCTURAL_PATHWAY_OF_INTERLEUKIN_1_IL1	49	0.421819	1.570649	0.03272	0.122509
WP_IL6_SIGNALING_PATHWAY	43	0.442219	1.57071	0.023952	0.122557
IGARASHI_ATF4_TARGETS_DN	96	0.40861	1.570775	0.033403	0.122607
GERY_CEBP_TARGETS	124	0.385391	1.570086	0.034553	0.122632
REACTOME_RAB_GEFS_EXCHANGE_GTP_FOR_GDP_ON_RABS	89	0.372288	1.570945	0.01417	0.122665
GRAHAM_CML_QUIESCENT_VS_NORMAL_DIVIDING_UP	53	0.439103	1.569178	0.044177	0.123084
NAKAMURA_METASTASIS	46	0.451355	1.56866	0.041068	0.123256
MCBRYAN_PUBERTAL_BREAST_6_7WK_DN	77	0.388303	1.566586	0.018595	0.123785
KORKOLA_TERATOMA	41	0.4564	1.567269	0.044088	0.123825
ZHOU_TNF_SIGNALING_4HR	49	0.476013	1.567536	0.04329	0.123839
PID_P73PATHWAY	78	0.40809	1.566316	0.015086	0.123892
REACTOME_ONCOGENIC_MAPK_SIGNALING	81	0.389208	1.566706	0.03719	0.123903
MILI_PSEUDOPODIA_CHEMOTAXIS_DN	414	0.342503	1.565384	0.032258	0.124111

LA_MEN1_TARGETS	25	0.481425	1.565739	0.042339	0.124118
KYNG_ENVIRONMENTAL_STRESS_RESPONSE_UP	51	0.408948	1.564283	0.01875	0.124774
REACTOME_ZINC_TRANSPORTERS	17	0.537487	1.563539	0.042718	0.12486
WP_TGFBETA_RECEPTOR_SIGNALING	54	0.445143	1.563658	0.036885	0.124864
JAZAG_TGFB1_SIGNALING_UP	101	0.367546	1.562576	0.02714	0.125365
REACTOME_APOPTOTIC_FACTOR_MEDIATED_RESPONSE	18	0.518116	1.561173	0.047817	0.125482
CHIANG_LIVER_CANCER_SUBCLASS_POLYSOMY7_DN	24	0.490143	1.561601	0.037113	0.12556
BAE_BRCA1_TARGETS_DN	30	0.461051	1.560465	0.030801	0.125789
YORDY_RECIPROCAL_REGULATION_BY_ETS1_AND_SP100_DN	67	0.38895	1.559282	0.005803	0.126282
BROWNE_HCMV_INFECTION_8HR_DN	43	0.438275	1.55894	0.042	0.126442
NUNODA_RESPONSE_TO_DASATINIB_IMATINIB_UP	29	0.479105	1.557794	0.046218	0.126977
SASSON_RESPONSE_TO_FORSKOLIN_UP	86	0.386691	1.557555	0.019305	0.127055
NGUYEN_NOTCH1_TARGETS_UP	27	0.455516	1.557165	0.037773	0.127244
WESTON_VEGFA_TARGETS_12HR	25	0.506626	1.556706	0.048387	0.127267

REACTOME_SIGNALING_BY_TGFB_FAMILY_MEMBERS	99	0.404429	1.55631	0.02407	0.127376
ZHANG_TARGETS_OF_EWSR1_FLI1_FUSION	87	0.384948	1.555958	0.022634	0.127441
BIOCARTA_TNFR1_PATHWAY	29	0.481595	1.55634	0.02439	0.127456
SEITZ_NEOPLASTIC_TRANSFORMATION_BY_8P_DELETION_DN	31	0.457465	1.555087	0.030738	0.127813
BIOCARTA_PTDINS_PATHWAY	23	0.482149	1.555125	0.048544	0.127888
PID_MYC_REPRESS_PATHWAY	63	0.387559	1.554522	0.020619	0.128036
WP_MELANOMA	68	0.38575	1.554315	0.011788	0.128106
REACTOME_TRAF6_MEDIATED_INDUCTION_OF_TAK1_COMPLEX_WITHIN_TLR4_COMPLEX	16	0.532049	1.553824	0.042718	0.128175
LI_PROSTATE_CANCER_EPIGENETIC	32	0.455436	1.553414	0.02863	0.128277
GENTILE_UV_RESPONSE_CLUSTER_D7	36	0.436569	1.552911	0.026052	0.12834
WANG_ESOPHAGUS_CANCER_VS_NORMAL_UP	120	0.401545	1.553003	0.045082	0.128383
HOLLERN_MICROACINAR_BREAST_TUMOR_DN	15	0.540092	1.552696	0.035225	0.128411
WP_IL17_SIGNALING_PATHWAY	30	0.464389	1.552166	0.037879	0.128614
DELPUECH_FOXO3_TARGETS_UP	64	0.426821	1.549329	0.034979	0.128745

LEE_AGING_MUSCLE_DN	41	0.423563	1.549438	0.02988	0.128749
BOYAULT_LIVER_CANCER_SUBCLASS_G2	28	0.45174	1.550533	0.02994	0.128777
LEE_NEURAL_CREST_STEM_CELL_UP	143	0.410106	1.551793	0.034908	0.128813
WP_IL9_SIGNALING_PATHWAY	16	0.570793	1.550277	0.04845	0.128864
BENPORATH_OCT4_TARGETS	279	0.335162	1.550789	0.026423	0.128889
GAUSSMANN_MLL_AF4_FUSION_TARGETS_A_UP	188	0.344681	1.551045	0.010246	0.12889
COLIN_PILOCYTIC_ASTROCYTOMA_VS_GLIOBLASTOMA_DN	28	0.473695	1.551544	0.0499	0.128907
MOHANKUMAR_HOXA1_TARGETS_DN	155	0.359438	1.551217	0.016393	0.128973
HUANG_GATA2_TARGETS_DN	68	0.398826	1.551259	0.029661	0.129042
LIN_TUMOR_ESCAPE_FROM_IMMUNE_ATTACK	19	0.521869	1.548461	0.039095	0.129136
WP_TNF_ALPHA_SIGNALING_PATHWAY	90	0.376209	1.547861	0.030738	0.129388
MISHRA_CARCINOMA_ASSOCIATED_FIBROBLAST_DN	24	0.494041	1.547187	0.047035	0.129409
REACTOME_SIGNALING_BY_TGF_BETA_RECEPTOR_COMPLEX	72	0.43235	1.547298	0.036957	0.129418
DASU_IL6_SIGNALING_UP	58	0.443169	1.547315	0.047337	0.129602

REACTOME_ERK_MAPK_TARGETS	22	0.484372	1.547389	0.047893	0.129659
KYNG_DNA_DAMAGE_BY_GAMMA_AND_UV_RADIATION	74	0.375083	1.544977	0.025896	0.130648
YAO_TEMPORAL_RESPONSE_TO_PROGESTERONE_CLUSTER_15	33	0.435224	1.545015	0.026694	0.130711
GARGALOVIC_RESPONSE_TO_OXIDIZED_PHOSPHOLIPIDS_BLACK_UP	33	0.437898	1.54474	0.027344	0.130717
WP_PI3KAKTMTOR_VITD3_SIGNALLING	22	0.505118	1.541824	0.047619	0.132237
DELASERNA_MYOD_TARGETS_DN	56	0.396099	1.541448	0.030488	0.132412
PEART_HDAC_PROLIFERATION_CLUSTER_UP	51	0.440658	1.54074	0.042105	0.132504
REACTOME_KERATAN_SULFATE_BIOSYNTHESIS	28	0.481536	1.54077	0.045267	0.132588
REACTOME_SIGNALING_BY_WNT	264	0.336592	1.540321	0.016194	0.132612
REACTOME_LEISHMANIA_INFECTION	235	0.355766	1.540361	0.020921	0.132675
WP_NRF2ARE_REGULATION	23	0.49212	1.53988	0.038	0.13283
HOLLMANN_APOPTOSIS_VIA_CD40_DN	246	0.346483	1.539605	0.022965	0.132853
BIOCARTA_CARDIACEGF_PATHWAY	18	0.53462	1.539651	0.044088	0.132917
COLINA_TARGETS_OF_4EBP1_AND_4EBP2	351	0.340907	1.539076	0.025052	0.133067
WANG_RESPONSE_TO_ANDROGEN_UP	28	0.492313	1.53817	0.049896	0.133563

WP_NONGENOMIC_ACTIONS_OF_125_DIHYDROXYVITAMIN_D3	70	0.402618	1.538213	0.03937	0.133627
WP_MIRNA_REGULATION_OF_P53_PATHWAY_IN_PROSTATE_CANCER	24	0.473876	1.537311	0.040984	0.134025
GUO_HEX_TARGETS_DN	64	0.397203	1.536856	0.025105	0.134141
BREUHAHN_GROWTH_FACTOR_SIGNALING_IN_LIVER_CANCER	15	0.534536	1.535359	0.047431	0.134714
CHIARADONNA_NEOPLASTIC_TRANSFORMATION_KRAS_DN	139	0.38735	1.535375	0.043137	0.134812
ZWANG_EGF_PERSISTENTLY_UP	29	0.462966	1.534971	0.04888	0.134904
WP_MECHANOREGULATION_AND_PATHOLOGY_OF_YAPTAZ_VIA_HIPPO_AND_NONHIPPO_MECHANISMS	47	0.423018	1.535463	0.037895	0.134956
PID_P75_NTR_PATHWAY	68	0.3861	1.53439	0.018672	0.135284
WP_CARDIAC_HYPERTROPHIC_RESPONSE	55	0.392277	1.532204	0.025845	0.136322
WP_EXTRACELLULAR_VESICLEMEDIATED_SIGNALING_IN_RECIPIENT_CELLS	30	0.455132	1.5318	0.044177	0.13651
BOYLAN_MULTIPLE_MYELOMA_D_CLUSTER_DN	36	0.424189	1.530545	0.036735	0.136767
PID_SMAD2_3NUCLEAR_PATHWAY	81	0.387115	1.531212	0.019724	0.136899
PID_HIF2PATHWAY	34	0.432369	1.530935	0.04814	0.137014
KEGG_BLADDER_CANCER	42	0.400051	1.529615	0.015936	0.137128

WP_HIPPOYAP_SIGNALING_PATHWAY	23	0.471644	1.529643	0.041068	0.137202
LIN_NPAS4_TARGETS_UP	163	0.34036	1.529674	0.008097	0.137274
KEGG_PRION_DISEASES	34	0.462604	1.528929	0.035639	0.137489
KEGG_COLORECTAL_CANCER	62	0.384041	1.528346	0.048387	0.137694
TAKEDA_TARGETS_OF_NUP98_HOXA9_FUSION_6HR_UP	82	0.396246	1.527384	0.02729	0.138103
REACTOME_SIGNALING_BY_FGFR3	40	0.420108	1.52746	0.02381	0.138144
SCHAEFFER_PROSTATE_DEVELOPMENT_6HR_DN	442	0.339869	1.525369	0.020325	0.13873
MA_MYELOID_DIFFERENTIATION_DN	42	0.419348	1.525082	0.040241	0.138767
GOTTWEIN_TARGETS_OF_KSHV_MIR_K12_11	62	0.379233	1.52518	0.027601	0.138776
PILON_KLF1_TARGETS_UP	467	0.328912	1.525672	0.018293	0.138814
ZHAN_MULTIPLE_MYELOMA_CD1_AND_CD2_DN	51	0.405115	1.525717	0.04321	0.138878
SCHRAETS_MLL_TARGETS_UP	33	0.474967	1.525987	0.049801	0.138893
ABDELMOHSEN_ELAVL4_TARGETS	16	0.554637	1.525741	0.041304	0.138959
GAVIN_FOXP3_TARGETS_CLUSTER_P7	89	0.394533	1.523347	0.038835	0.139308

WP_ENDOMETRIAL_CANCER	63	0.396487	1.522315	0.038697	0.139985
CHANG_IMMORTALIZED_BY_HPV31_UP	68	0.399898	1.521857	0.028689	0.140183
ZHOU_INFLAMMATORY_RESPONSE_LIVE_UP	408	0.318637	1.521221	0.013619	0.140465
GAUSSMANN_MLL_AF4_FUSION_TARGETS_F_UP	176	0.360415	1.520666	0.027237	0.140711
WP_NONSMALL_CELL_LUNG_CANCER	72	0.370893	1.520168	0.02549	0.140868
BIOCARTA_PPARA_PATHWAY	51	0.411765	1.519606	0.038776	0.141082
WP_ERBB_SIGNALING_PATHWAY	91	0.372175	1.518953	0.033835	0.14139
SETLUR_PROSTATE_CANCER_TMPRSS2_ERG_FUSION_UP	65	0.381678	1.517969	0.023715	0.141842
DOANE_RESPONSE_TO_ANDROGEN_DN	236	0.322809	1.516993	0.021956	0.142227
REACTOME_INTRACELLULAR_SIGNALING_BY_SECOND_MESSENGERS	304	0.315845	1.515872	0.014493	0.142877
YANG_BREAST_CANCER_ESR1_DN	24	0.48657	1.515906	0.04931	0.142948
KEGG_EPITHELIAL_CELL_SIGNALING_IN_HELICOBACTER_PYLORI_INFECTION	67	0.379989	1.514018	0.037113	0.143759
WP_NOVEL_INTRACELLULAR_COMPONENTS_OF_RIGILIKE_RECEPTOR_RLR_PATHWAY	58	0.391683	1.513012	0.041176	0.144251
REACTOME_SARS_COV_INFECTIONS	146	0.336842	1.513133	0.01232	0.144256

HEIDENBLAD_AMPLICON_12P11_12_UP	36	0.42848	1.51151	0.046278	0.145062
KEGG_HYPERTROPHIC_CARDIOMYOPATHY_HCM	82	0.409432	1.51122	0.040486	0.145097
HUANG_FOXA2_TARGETS_UP	46	0.408525	1.510277	0.038697	0.145464
VALK_AML_CLUSTER_12	29	0.441123	1.50569	0.046843	0.148403
KYNG_DNA_DAMAGE_BY_GAMMA_RADIATION	74	0.354803	1.504446	0.017682	0.149087
WP_LUNG_FIBROSIS	62	0.427918	1.504505	0.045908	0.149141
SMIRNOV_RESPONSE_TO_IR_6HR_UP	163	0.33436	1.504171	0.018367	0.149205
CHESLER_BRAIN_HIGHEST_GENETIC_VARIANCE	35	0.417476	1.502126	0.038136	0.149957
BIOCARTA_NFAT_PATHWAY	49	0.407442	1.502147	0.035857	0.150045
WP_IL1_SIGNALING_PATHWAY	55	0.394401	1.501766	0.044444	0.150142
WP_INTERLEUKIN11_SIGNALING_PATHWAY	44	0.396779	1.50115	0.046185	0.150156
PID_THROMBIN_PAR4_PATHWAY	15	0.544684	1.502238	0.046465	0.150173
BROWNE_HCMV_INFECTION_16HR_UP	218	0.360385	1.500461	0.043825	0.150521
VALK_AML_WITH_CEBPA	35	0.41174	1.500194	0.030738	0.150523

PID_P53_DOWNSTREAM_PATHWAY	135	0.344336	1.49939	0.029821	0.150551
FLECHNER_PBL_KIDNEY_TRANSPLANT_REJECTED_VS_OK_UP	61	0.383318	1.499489	0.041929	0.150588
SAFFORD_T_LYMPHOCYTE_ANERGY	87	0.352322	1.49997	0.021654	0.150623
FONTAINE_THYROID_TUMOR_UNCERTAIN_MALIGNANCY_DN	26	0.442805	1.49835	0.044747	0.151048
VANASSE_BCL2_TARGETS_DN	58	0.412602	1.496454	0.038697	0.151708
KYNG_DNA_DAMAGE_BY_UV	53	0.371421	1.496554	0.037422	0.151714
WP_CHROMOSOMAL_AND_MICROSATELLITE_INSTABILITY_IN_COLORECTAL_CANCER	73	0.37789	1.496662	0.049145	0.151821
LIU_BREAST_CANCER	28	0.435185	1.495072	0.044444	0.151844
WP_SIGNALING_PATHWAYS_IN_GLIOBLASTOMA	82	0.386545	1.49491	0.044574	0.151863
WP_THE_OVERLAP_BETWEEN_SIGNAL_TRANSDUCTION_PATHWAYS_THAT_CONTRIBUTE_TO_A_RANGE_OF_LMNA_LAMINOPATHIES	55	0.389737	1.496103	0.023454	0.151894
WP_REGUCALCIN_IN_PROXIMAL_TUBULE_EPITHELIAL_KIDNEY_CELLS	32	0.426924	1.496689	0.047109	0.151903
NAKAMURA_ADIPOGENESIS_EARLY_UP	56	0.411766	1.4936	0.047904	0.151927
PLASARI_TGFB1_SIGNALING_VIA_NFIC_10HR_UP	56	0.420131	1.495926	0.03854	0.151936
REACTOME_SLC_TRANSPORTER_DISORDERS	96	0.372128	1.495766	0.01227	0.151964

WEI_MIR34A_TARGETS	142	0.354924	1.491796	0.039175	0.152806
WP_VITAMIN_D_RECEPTOR_PATHWAY	166	0.345918	1.491448	0.036437	0.152892
STAMBOLSKY_RESPONSE_TO_VITAMIN_D3_UP	79	0.380552	1.49152	0.041257	0.152934
BENPORATH_NOS_TARGETS	171	0.337619	1.491113	0.018634	0.153092
FARMER_BREAST_CANCER_BASAL_VS_LULMINAL	317	0.325296	1.487286	0.026477	0.154473
UDAYAKUMAR_MED1_TARGETS_DN	228	0.320396	1.487331	0.033268	0.154537
WP_IL18_SIGNALING_PATHWAY	265	0.321233	1.486494	0.034413	0.154942
WP_ARYL_HYDROCARBON_RECEPTOR_PATHWAY	45	0.410964	1.482432	0.044807	0.157553
MCBRYAN_PUBERTAL_BREAST_3_4WK_UP	201	0.324197	1.479186	0.025743	0.159547
MCBRYAN_PUBERTAL_BREAST_4_5WK_UP	258	0.325385	1.474412	0.043564	0.161801
BILBAN_B_CLL_LPL_UP	59	0.388183	1.472729	0.039683	0.162822
BREDEMEYER_RAG_SIGNALING_VIA_ATM_NOT_VIA_NFKB_UP	50	0.374884	1.472361	0.044715	0.163051
KAYO_AGING_MUSCLE_UP	221	0.305972	1.469505	0.005837	0.164592
WP_RAS_AND_BRADYKININ_PATHWAYS_IN_COVID19	29	0.470885	1.466825	0.047809	0.165445

WANG_TUMOR_INVASIVENESS_DN	202	0.338888	1.466975	0.039749	0.16552
WP_BLADDER_CANCER	40	0.382492	1.466526	0.042885	0.165581
CHIARETTI_T_ALL_REFRACTORY_TO_THERAPY	25	0.444806	1.465769	0.045175	0.165842
REACTOME_FACTORS_INVOLVED_IN_MEGAKARYOCYTE_DEVELOPMENT_AND_PLATELET_PRODUCTION	138	0.347889	1.464756	0.046025	0.166302
GRABARCZYK_BCL11B_TARGETS_DN	59	0.378007	1.464143	0.042918	0.166552
GREGORY_SYNTHETIC_LETHAL_WITH_IMATINIB	139	0.320706	1.464169	0.020243	0.166631
RIZKI_TUMOR_INVASIVENESS_3D_DN	252	0.297687	1.459891	0.008197	0.168354
OUILLETTE_CLL_13Q14_DELETION_DN	52	0.353954	1.458881	0.029474	0.168871
REACTOME_CLASS_I_MHC_MEDIATED_ANTIGEN_PROCESSING_PRESENTATION	370	0.322846	1.455345	0.045175	0.170977
MARTORIATI_MDM4_TARGETS_FETAL_LIVER_UP	227	0.317618	1.453562	0.040426	0.171978
KONDO_EZH2_TARGETS	214	0.34335	1.452889	0.040984	0.172247
REACTOME_FGFR1_MUTANT_RECEPTOR_ACTIVATION	29	0.459968	1.452205	0.043825	0.172722
RADMACHER_AML_PROGNOSIS	77	0.360036	1.449701	0.047337	0.174083
REACTOME_SIGNALING_BY_PTK6	54	0.373432	1.449044	0.045549	0.174482

WP_DNA_DAMAGE_RESPONSE_ONLY_ATM_DEPENDENT	110	0.339104	1.446221	0.035785	0.175848
AMUNDSON_RESPONSE_TO_ARSENITE	205	0.312401	1.445674	0.028571	0.176027
RAO_BOUND_BY_SALL4	218	0.314498	1.438879	0.034483	0.179399
WP_FRAGILE_X_SYNDROME	120	0.339542	1.437833	0.048638	0.179922
KEGG_ENDOCYTOSIS	181	0.320304	1.432882	0.048263	0.183174
HOWLIN_CITED1_TARGETS_1_UP	32	0.41158	1.43134	0.04142	0.18415
YAGI_AML_WITH_T_8_21_TRANSLOCATION	353	0.293806	1.430405	0.025845	0.184395
OSWALD_HEMATOPOIETIC_STEM_CELL_IN_COLLAGEN_GEL_DN	259	0.302991	1.428118	0.034	0.184947
WP_RAS_SIGNALING	181	0.318345	1.428353	0.039448	0.185156
IWANAGA_CARCINOGENESIS_BY_KRAS_PTEN_UP	179	0.305046	1.426588	0.027083	0.185651
YAGI_AML_SURVIVAL	118	0.315988	1.424053	0.030242	0.186925
PID_CMYB_PATHWAY	81	0.347079	1.420793	0.048193	0.188173
FIRESTEIN_PROLIFERATION	162	0.306069	1.420586	0.045276	0.188257
KIM_WT1_TARGETS_8HR_DN	119	0.308349	1.418109	0.039761	0.189512
KYNG_DNA_DAMAGE_UP	198	0.29869	1.414837	0.026316	0.190623

ZHOU_INFLAMMATORY_RESPONSE_FIMA_UP	454	0.289517	1.413386	0.019569	0.191583
HELLER_HDAC_TARGETS_SILENCED_BY_METHYLATION_UP	425	0.28263	1.406092	0.024904	0.195308
ZHOU_INFLAMMATORY_RESPONSE_LPS_UP	355	0.294664	1.403293	0.038674	0.196524
BOYLAN_MULTIPLE_MYELOMA_PCA3_UP	78	0.33698	1.401801	0.045929	0.197064
KOYAMA_SEMA3B_TARGETS_DN	341	0.289342	1.401554	0.037267	0.197092
SATO_SILENCED_BY_METHYLATION_IN_PANCREATIC_CANCER_1	396	0.296049	1.393218	0.033399	0.201612
RAO_BOUND_BY_SALL4_ISOFORM_B	492	0.286001	1.382195	0.034033	0.207626
HAN_SATB1_TARGETS_DN	372	0.27628	1.361189	0.046218	0.221202
BRUINS_UVC_RESPONSE_VIA_TP53_GROUP_D	264	0.263832	1.358107	0.014583	0.223155
ZHANG_BREAST_CANCER_PROGENITORS_DN	130	0.285917	1.357296	0.040084	0.2232
BROWNE_HCMV_INFECTION_30MIN_DN	134	0.293443	1.347544	0.03527	0.229963
CHARAFE_BREAST_CANCER_LUMINAL_VS_MESENCHYMAL_DN	451	0.671685	2.389719	<0.01	<0.01