



Research article

Relative contribution of three transporters to D-xylose uptake in *Aspergillus niger*

Jiali Meng^{1,#}, Astrid Müller¹, Jiajia Li¹, Vivien B í ő², Alexandra Márton², Erzs ébet Fekete², Levente Karaffa², Miia R. Mäkel ä³ and Ronald P. de Vries^{1,*}

¹ Fungal Physiology, Westerdijk Fungal Biodiversity Institute & Fungal Molecular Physiology, Utrecht University, Uppsalalaan 8, 3584 CT Utrecht, The Netherlands

² Department of Biochemical Engineering, Faculty of Science and Technology, University of Debrecen, Debrecen, Hungary

³ Department of Bioproducts and Biosystems, School of Chemical Engineering, Aalto University, 02150 Espoo, Finland

[#]Current address: Ningbo Excure Pharm Inc., No.172, Xizishan Rd, Ningbo, Zhejiang, China

* **Correspondence:** Email: r.devries@wi.knaw.nl; Tel: +31302122600; Fax: +31302122601.

Supplementary

Table S1. *Aspergillus niger* strains used in this study.

Strain	CBS number	Genotype	Reference
N593Δku70	CBS 138852	cspA1, kusA::amdS, pyrG ⁻	Alazi et al, 2016
ΔxltA	CBS 147732	cspA1, kusA::amdS, pyrG ⁻ , xltA ⁻	This study
ΔxltB	CBS 147733	cspA1, kusA::amdS, pyrG ⁻ , xltB ⁻	This study
ΔxltD	CBS 147734	cspA1, kusA::amdS, pyrG ⁻ , xltD ⁻	This study
ΔxltAΔxltBΔxltD	CBS 147741	cspA1, kusA::amdS, pyrG ⁻ , xltA ⁻ , xltB ⁻ , xltD ⁻	This study

Reference: Alazi, E., et al., 2016. The transcriptional activator GaaR of *Aspergillus niger* is required for release and utilization of D-galacturonic acid from pectin. FEBS Lett. 590, 1804-1815.

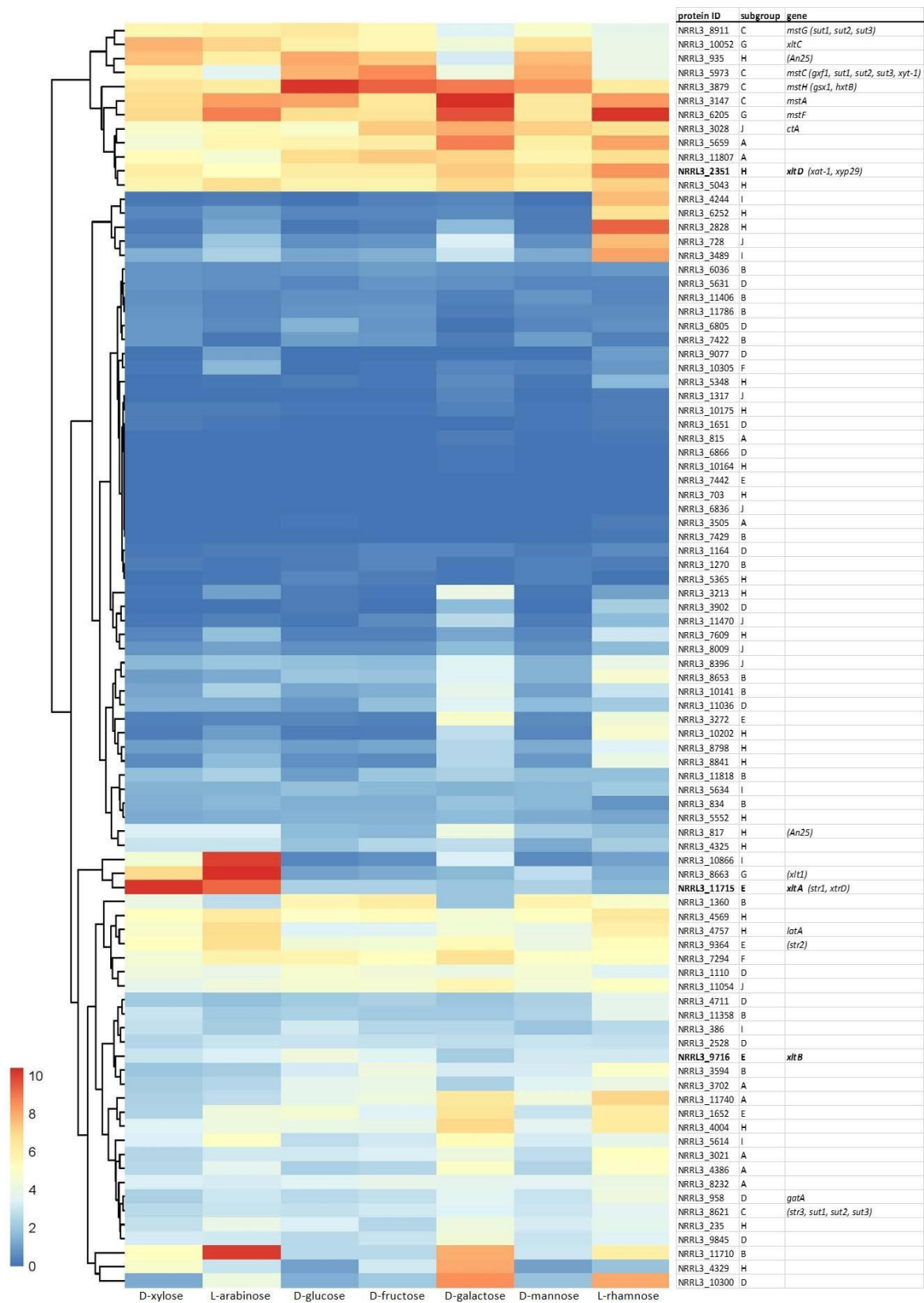


Figure S1. Expression profile of *A. niger* candidate sugar transporters. RNAseq analysis was performed on triplicate cultures of *A. niger* on 25 mM of the indicated sugars. *A. niger* gene names are indicated in the right column, while gene names of orthologs in other fungi are in brackets. Transporters analyzed in this study are in bold. The grouping in the middle column is based on [18] and reflects putative functions. The color bar indicates the average log₂ FPKM values. A = inositol/hexose, B = maltose/sucrose, C = hexose/pentose/polyol, D = uronic/quinic acid, E = xylose, F = unknown, G = pentose/hexose, H = glycerol/arabitol/pentose, I = unknown, J = lactose/cellodextrin/xylobiose.



AIMS Press

© 2025 the Author(s), licensee AIMS Press. This is an open access article distributed under the terms of the Creative Commons Attribution License (<https://creativecommons.org/licenses/by/4.0>)