

1 **Supplementary Information**

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3 **Identification and characterization of a novel β -D-galactosidase that releases**
4 **pyruvylated galactose**

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22 Key words: *Bacillus* species, β -D-galactosidase, galactomannan, pyruvylated galactose

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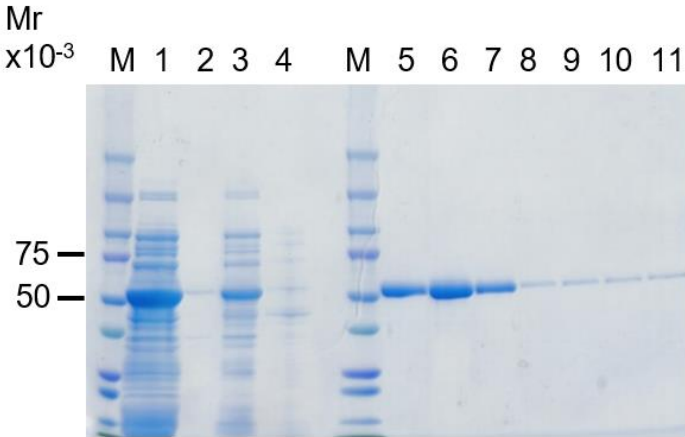
24 Running title: Pyruvylated-galactose-releasing galactosidase

25 **Supplementary figure legend**

26 **Supplementary Figure S1. Image of the original SDS-PAGE gel that was cropped and**
27 **used in Figure 2A.**

28 Shown is the full image of the original SDS-PAGE gel that was cropped and used in Figure
29 2A. Lane M, molecular weight markers; lane 1, supernatant; lane 2, pellet; lane 3, flow
30 through; lane 4, wash; lanes 5-11, elution.

31 **Supplementary Figure S1**



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33 **Supplementary Table 1. Primers used in this study.**

Target	Sequence (5' to 3'; upper, forward; lower, reverse)
16S rRNA gene	AGAGTTTGATCMTGGCTCAG (M: A or C) GGYTACCTTGTTACGACTT (Y: A, T or C)
pET-32b	CACCACCACCACCACCACTGAGAT ATGTATATCTCCTTCTTAAAGTTA
ORF1119	GAAGGAGATATACATATGAAGTTTCCACATGATTTT GTGGTGGTGGTGGTGTGCATTATAACTCTTCCCCTCTC
ORF1119 (for His tag)	GAAGGAGATATACATATGAAGTTTCCACATGATTTT GTGGTGGTGGTGGTGTAACTCTTCCCCTCTC
ORF4395	GAAGGAGATATACATCATGACTGGAATTAATAATTGCT GTGGTGGTGGTGGTGTGCATTACTTCTCTACCTTTTTTAAA
ORF4971	GAAGGAGATATACATCATGAAGGATTGGCATAAAAAG GTGGTGGTGGTGGTGTGCATTATTTTCGTATATCGATACAC
BglC	GAAGGAGATATACATATGAAATTTTCTAAAGACTTTCTATTTGGAG GTGGTGGTGGTGGTGAAGATTTTCGCCTCTCTCTTC
BglH	GAAGGAGATATACATATGAGTTCAAATGAAAAACG GTGGTGGTGGTGGTGGAGACTCTCTCCGTTTG
H118A	TTATAT _{gct} TGGGATTTACCATTACCGTTAGAAAAAG ATCCCA _{agc} ATATAAAGTGACAAACGGCACAATC
E163A	TTAAT _{gct} ACCGTAATGTTTTGTGGATTAGG TACGGT _{agc} ATTAATAAGTAATCCAATGCTTAAC
S427A	CTTTTA _{gct} TGGTTAAATGGATATAAA AGTCACTAACTAGAAAAT _{cga} ACCAAT

S427E	CTTTTAgaaTGGTTAAATGGATATAAA AGTCACTAACTAGAAAATcttACCAAT
N430A	TGGTTAgctGGATATAAAAAGCAATAT CTAGAAAATTCAACCAATcgaCCTATA
N430Y	TGGTTAtatGGATATAAAAAGCAATAT CTAGAAAATTCAACCAAtataCCTATA
K434A	TATAAAgctCAATATGGCTTTATTTTT ACCAATTTACCTATATTTcgaGTTATA
Y436A	AAGCAAgctGGCTTTATTTTTGTCGAT TTACCTATATTTTTCGTTcgaCCGAAA
Y436F	AAGCAAttGGCTTTATTTTTGTCGAT TTACCTATATTTTTCGTTaaaCCGAAA

- 34 Lower case characters represent nucleotides where point mutations were introduced.
- 35 The nucleotide sequence of ORF1119 was used as a template for all point mutants.