

SUPPLEMENTAL MATERIAL

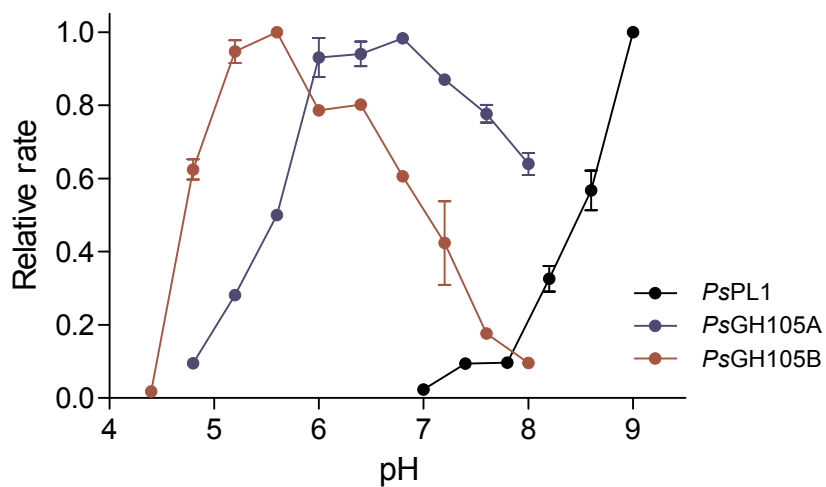


FIG S1 pH profiles for *PsPL1*, *PsGH105A* and *PsGH105B*. pH optima were determined in either MES buffer (for *PsGH105A* and *PsGH105B*) or Tris-phosphate buffer (for *PsPL1*). Data are shown are the initial rate at each pH relative to the highest observed rate, and are the mean of three replicates; error bars, where visible, represent the SD.

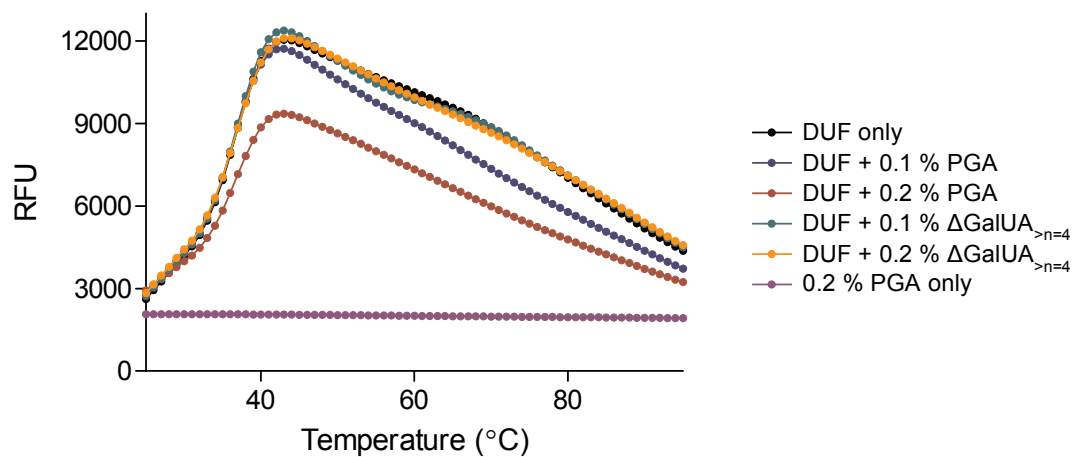


FIG S2 Protein melt curves for DUF at pH 6.5 in the presence of potential ligands.

DUF was heated from 25-95 °C in the presence of SYPRO Orange and with and without either polygalacturonate (PGA) or $\Delta\text{GalUA}_{\geq n=4}$ in MES pH 6.5. Comparable curves were also observed at three other pHs.

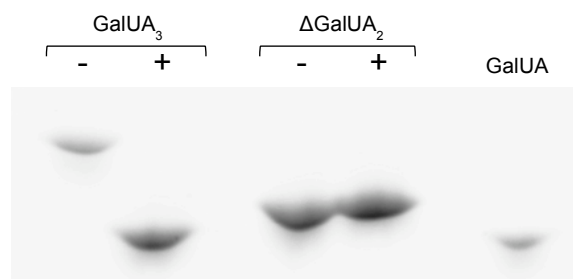


FIG S3 Absence of activity of *PsGH28* against unsaturated digalacturonate.

PsGH28 did not demonstrate activity against unsaturated digalacturonate (ΔGalUA_2) by FACE analysis; activity of the same protein preparation against trigalacturonate (GalUA_3) is shown for comparison, with galacturonate (GalUA) as a standard. +/- indicates presence/absence of *PsGH28*.

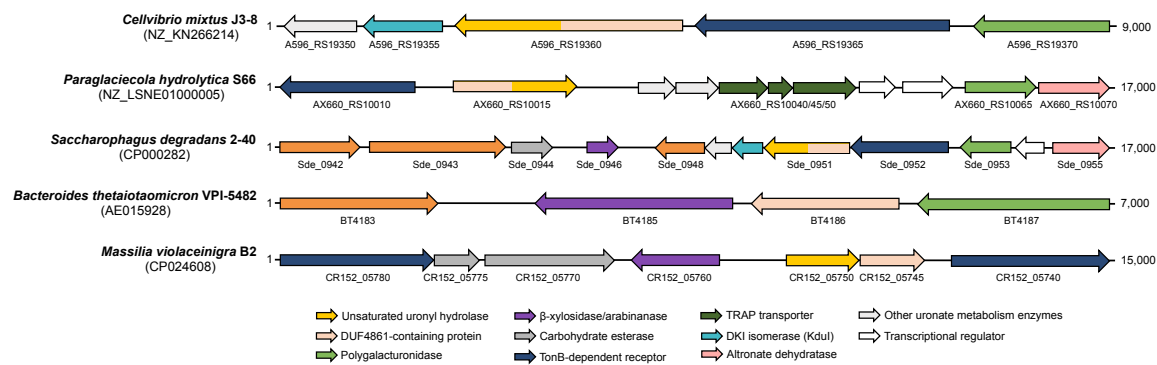


FIG S4 Occurrence of DUF4861-containing proteins in putative pectin utilization loci. Schematic depiction of putative pectin utilization loci containing either independent DUF4861 domains or domains fused to unsaturated uronyl hydrolases. ORFs are shown to scale (within an individual locus) and coloured according to putative function. Only partial loci are shown for some organisms due to their size and have been focused around the DUF4861 domain. GenBank accession numbers for genomes are shown underneath organism names and strains, and locus tags are given underneath ORFs. Abbreviation: 5-keto-4-deoxyuronate (DKI).