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| GH Family**Table S2. Abundance of GH Families in the *A. glabripennis* gut metagenome.** Corresponding KEGG Enzyme Classifications and class level assignments are also presented. | Number of Reads | KEGG ECs | Class Level Assignments |
| 1 | 556 | β-glucosidase (EC 3.2.1.21)β-galactosidase (EC 3.2.1.23) β-mannosidase (EC 3.2.1.25)β-glucuronidase (EC 3.2.1.31) Exo-β-1,4-glucanase (EC 3.2.1.74)6-phospho-β-galactosidase (EC 3.2.1.856-phospho-β-glucosidase (EC 3.2.1.86) Strictosidine amygdalin β-glucosidase (EC 3.2.1.117)Thioglucosidase (EC 3.2.1.147)β-primeverosidase (EC 3.2.1.149) | Actinobacteria AlphaproteobacteriaBacilliBacteroidetesBetaproteobacteriaClostridiaGammaproteobacteriaHexapodaSaccharomycetesVerrucomicrobia |
| 2 | 337 | β-galactosidase (EC 3.2.1.23)β-mannosidase (EC 3.2.1.25) β-glucuronidase (EC 3.2.1.31)Mannosylglycoprotein  | ActinobacteriaAlphaproteobacteriaBacilliBacteroidetesGammaproteobacteriaHexapodaLentisphaeria |
| 3 | 687 | β-glucosidase (EC 3.2.1.21)Xylan 1,4-β -xylosidase (EC 3.2.1.37)β -N-acetylhexosaminidase (EC 3.2.1.52) Glucan 1,3-β -glucosidase (EC 3.2.1.58)Endo-β -1,4-glucanase (EC 3.2.1.74)Exo-1,3-1,4-glucanase (EC 3.2.1.-)α-L-arabinofuranosidase (EC 3.2.1.55) | AcidobacteriaActinobacteria AlphaproteobacteriaBacilliBacteroidetesBetaproteobacteriaClostridiaGammaproteobacteriaLentisphaeriaColeopteraSaccharomycetesThermobaculumVerrucomicrobia |
| 5 | 77 | β-mannosidase (EC 3.2.1.25)Endo- β -1,4-glucanase (EC 3.2.1.4)Glucan β -1,3-glucosidase (EC 3.2.1.58)Licheninase (EC 3.2.1.73)Glucan endo-1,6- β -glucosidase (EC 3.2.1.75)Mannan endo-β-1,4-mannosidase (EC 3.2.1.78)Endo- β -1,4-xylanase (EC 3.2.1.8)Exo-β-1,4-cellobiosidase (EC 3.2.1.91) β -1,3-mannanase (EC 3.2.1.-)Mannan transglycosylase (EC 2.4.1.-) β -glucosylceramidase (EC 3.2.1.45) | ActinobacteriaAlphaproteobacteriaBacilliBacteroidetesClostridiaGammaproteobacteriaHexapodaLentisphaeriaVerrucomicrobia |
| 6 | 22 | Endo-β -1,4-glucanase (EC 3.2.1.4)Exo-β -1,4-cellobiosidase (EC 3.2.1.91) | ActinobacteriaAlphaproteobacteriaBacilliBacteroidetesChloroflexi ClostridiaGammaproteobacteriaHexapodaSaccharomycetes |
| 8 | 57 | Endo-β -1,4-glucanase (EC 3.2.1.4)Licheninase (EC 3.2.1.73)Endo-1,4-β-xylanase (EC 3.2.1.8) | ActinobacteriaAlphaproteobacteriaBacilliGammaproteobacteria |
| 9 | 10 | Endo-β -1,4-glucanase (EC 3.2.1.4)Exo-β -1,4-cellobiosidase (EC 3.2.1.91)β-glucosidase (EC 3.2.1.21);  | Actinobacteria AlphaproteobacteriaBacilliBacteroidetes GammaproteobacteriaDeltaproteobacteria |
| 10 | 62 | Endo-1,4-β-xylanase (EC 3.2.1.8) Endo-1,3-β-xylanase (EC 3.2.1.32) | ActinobacteriaAlphaproteobactiaBacteroidetesGammaproteobacteriaVerrucomicrobia |
| 11 | 3 | Endo-1,4-β-xylanase (EC 3.2.1.8)  | Actinobacteria |
| 14 | 15 | β-amylase (EC 3.2.1.2) | ActinobacteriaBacteroidetesVerrucomicrobia |
| 15 | 92 | Glucoamylase (EC 3.2.1.3)Glucodextranase (EC 3.2.1.70)α,α-trehalase (EC 3.2.1.28) | ActinobacteriaAlphaproteobacteriaBacteroidetesGammaproteobacteriaHexapodaSaccharomycetes |
| 16 | 60 | Endo-1,3-β-glucanase (EC 3.2.1.39)Endo-1,3(4)-β-glucanase (EC 3.2.1.6Licheninase (EC 3.2.1.73) Endo-β-1,3-galactanase (EC 3.2.1.-)  | ActinobacteriaAlphaproteobacteriaBacteroidetesGammaproteobacteriaVerrucomicrobia |
| 17 | 10 | Endo-1,3-β-glucosidase (EC 3.2.1.39)Glucan 1,3-β-glucosidase (EC 3.2.1.58)Licheninase (EC 3.2.1.73)β -1,3-glucanosyltransglycosylase (EC 2.4.1.-) | Saccharomycetes |
| 18 | 75 | Chitinase (EC 3.2.1.14)  | ActinobacteriaBacteroidetesClostridiaGammaproteobacteriaHexapodaSaccharomycetesVerrucomicrobia |
| 20 | 192 | β-hexosaminidase (EC 3.2.1.52)β -1,6-N-acetylglucosaminidase (EC 3.2.1.-)β -6-SO3-N-acetylglucosaminidase (EC 3.2.1.-) | ActinobacteriaAlphaproteobacteriaBacteroidetesBetaproteobacteriaGammaproteobacteriaHexapodaLentisphaeria |
| 25 | 152 | Lysozyme (EC 3.2.1.17) | Actinobacteria AlphaproteobacteriaBacilliBacteroidetesGammaproteobacteria |
| 26 | 21 | β-mannanase (EC 3.2.1.78) | ActinobacteriaAlphaproteobacteriaBacilliBacteroidetesGammaproteobacteriaSaccharomycetes |
| 28 | 26 | Polygalacturonase (EC 3.2.1.15)Exo-polygalacturonase (EC 3.2.1.67)Endo-xylogalacturonan hydrolase (EC 3.2.1.-) | ActinobacteriaAlphaproteobacteriaBacilliBacteroidetesGammaproteobacteriaSaccharomycetes |
| 31 | 273 | α-glucosidase (EC 3.2.1.20) α -1,3-glucosidase (EC 3.2.1.84)Sucrase-isomaltase (EC 3.2.1.48) Isomaltosyltransferase (EC 2.4.1.-) | Actinobacteria AlphaproteobacteriaBacilliBacteroidetesClostridiaGammaproteobacteriaHexapodaLentisphaeriaSaccharomycetesVerrucomicrobia |
| 32 | 367 | Invertase (EC 3.2.1.26)Endo-levanase (EC 3.2.1.65) Sucrose:fructan 6-fructosyltransferase (EC 2.4.1.10)Levan fructosyltransferase (EC 2.4.1.-) | ActinobacteriaAlphaproteobacteriaBacilliBacteroidetesBetaproteobacteriaGammaproteobacteriaSaccharomycetes |
| 35 | 65 | β-galactosidase (EC 3.2.1.23)Exo-β-1,4-galactanase (EC 3.2.1.-) | Actinobacteria BacteroidetesHexapodaVerrucomicrobia |
| 38 | 119 | α-mannosidase (EC 3.2.1.24) Mannosyl-oligosaccharide-α -1,3-mannosidase (EC 3.2.1.-) | AcidobacteriaActinobacteriaAlphaproteobacteriaBacilliBacteroidetesClostridiaLentisphaeriaHexapodaSaccharomycetesThermobaculum |
| 39 | 39 | β-xylosidase (EC 3.2.1.37) | ActinobacteriaAlphaproteobacteriaLentisphaeriaHexapodaVerrucomicrobia |
| 43 | 210 | β -xylosidase (EC 3.2.1.37)β -1,3-xylosidase (EC 3.2.1.-)α-L-arabinofuranosidase (EC 3.2.1.55)Arabinanase (EC 3.2.1.99)Endo-1,4-β-xylanase (EC 3.2.1.8)  | ActinobacteriaBacilliBacteroidetesClostridiaGammaproteobacteria |
| 45 | 1 | Endo-β -1,4-glucanase (EC 3.2.1.4) | N/A\* |
| 46 | 1 | No EC evidence | Bacilli |
| 47 | 20 | α-mannosidase (EC 3.2.1.113) | HexapodaSaccharomycetes |
| 51 | 84 | Dextranase (EC 3.2.1.11) | Actinobacteria |
| 53 | 37 | Endo-β-1,4-galactanase (EC 3.2.1.89) | Actinobacteria AlphaproteobacteriaBacteroidetescandidate division TM7Gammaproteobacteria |
| 57 | 16 | α-amylase (EC 3.2.1.1)4- α-glucanotransferase (EC 2.4.1.25) α--galactosidase (EC 3.2.1.22)amylopullulanase (EC 3.2.1.41) | ActinobacteriaAlphaproteobacteriaBacteroidetescandidate division TM7Gammaproteobacteria |
| 61 | 1 | Copper-dependent polysaccharide monooxygenases | N/A\* |
| 65 | 189 | α,α-trehalase (EC 3.2.1.28)Maltose phosphorylase (EC 2.4.1.8) Kojibiose phosphorylase (EC 2.4.1.230)Trehalose-6-phosphate phosphorylase (EC 2.4.1.-) Nigerose phosphorylase (EC 2.4.1.-) | Actinobacteria BacilliBacteroidetesClostridiaSaccharomycetes |
| 67 | 10 | α-glucuronidase (EC 3.2.1.139) | Actinobacteria AlphaproteobacteriaBacteroidetesGammaproteobacteria |
| 70 | 180 | Dextransucrase (EC 2.4.1.5)Reuteransucrase (EC 2.4.1.-)α-4,6-Glucanotransferase (EC 2.4.1.-) | ActinobacteriaAlphaproteobacteriaBacilliBacteroidetes |
| 71 | 1 | No EC evidence | Actinobacteria |
| 76 | 48 | α-1,6-mannanase (EC 3.2.1.101) | Actinobacteria AlphaproteobacteriaBacteroidetesSaccharomycetes |
| 81 | 48 | Endo-β-1,3-glucanase (EC 3.2.1.39) | Actinobacteria BacteroidetesSaccharomycetes |
| 85 | 4 | No EC evidence | Actinobacteria |
| 88 | 66 | D-4,5-unsaturated-β-glucuronyl hydrolase (EC 3.2.1.-) | ActinobacteriaAlphaproteobacteriaBacilliBacteroidetesGammaproteobacteriaHexapodaVerrucomicrobia |
| 92 | 161 | Mannosyl-oligosaccharide-α-1,2-mannosidase (EC 3.2.1.113)Mannosyl-oligosaccharide-α -1,3-mannosidase (EC 3.2.1.-)Mannosyl-oligosaccharide-α-1,6-mannosidase (EC 3.2.1.-)α -mannosidase (EC 3.2.1.24) α -1,2-mannosidase (EC 3.2.1.-)α -1,3-mannosidase (EC 3.2.1.-)α -1,4-mannosidase (EC 3.2.1.-) | ActinobacteriaBacilliBacteroidetesGammaproteobacteria |