## Supplementary Materials

# Mining, Identification, and Characterization of Three Xylanases from the Microbiota of *T. fuciformis* with Its Companion Strains

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**Table S1.** Sequence information of the genes identified in this study.

| Gene name | Sequence |
|---|---|
| *AsXyn1* | **Full_length:**<br>ATGAAGTCCGCTATCCTATACCTACTTGCCCCCTTGACGGCATTGGCCGCTCCCG<br>CCGAGATCGTCGAGCGACAGGCCGCCGACAGCATCGACGCCTTGATCAAGGCC<br>AAGGGAAAGCTATACTACGGAACTTGCGCCGACCAGAACCGTCTTTCGACTGG<br>AAAGTCCGCCGATGTAATCAAGGCAGACTTCGGTCAGGTAACTCCGGAGAACA<br>GCATGAAGTGGGACAGCACCGAGCCCTCCGAGGGAAACTTCAACTTCGCCGGA<br>GGTGATTACCTCGTTGACTGGGCCACGGCGAACAACAAGACGATCCGTGGGCA<br>CACTCTTTGCTGGCACTCGCAACTACCCGGTTGGGTCTCCAACATCAGGGACAA<br>GACGAAGCTGACTTCGGTCCTTGAGAACCACGTTACCACCCTGGTGACCCGGTA<br>TAAGGGCAAGATCCGCGCTTGGGATGTCGTGAACGAGATCTTCAACGAAGACG<br>GCTCTTTGCGTCAATCCGTCTTCTCCCAAGTCCTAGGCGAGGACTTCGTCCGCAT<br>TGCCTTCGAAGCTGCCCGCAAGGCCGACCCCGACGCCAAGCTGTACATTAACG<br>ACTACAACCTCGACCAGCCTAACTAGTACGTTAGAACACCCTGTTGAGACTTCT<br>AGAATTAATAGTTACTTACTGTACCAAACAGTGCTAAAACCACCACTGGCATGA<br>TCAACCACGTCAAGAAGTGGCTCGAAGCCGGTGTCCCCATCGACGGCATCGGA<br>TCGCAAGCCCACCTCACGAGCGGTCTCGCCGCCCAAGCCGGCGCCACCATCAA<br>GGCCCTTGCCGCCAGTGGTGTCAGTGAGGTCGCTTTCACCGAAGTAGACATCCA<br>AACCGCCCCCGCCAACGACTACGCTCAGGTCACCAAGGCTTGTCTCGATGAGC<br>CCAAGTGTGTCGGTATCACCGTCTGGGGTGTCCGGGATCCCGTAAGAACCACCC<br>TCTTGACTATTATGAATGATCTGGAGGAAATCAGCTGACTGAAGACGTGATAGG<br>ACTCCTGGAGAGCTAGCACCAACCCCCTCCTGTTCGACAGTGGCTTTAACCCTA<br>AGCCCGCGTACACTGCTGTCGTGAACGCCCTGAAATAA<br>**CDS:**<br>ATGAAGTCCGCTATCCTATACCTACTTGCCCCCTTGACGGCATTGGCCGCTCCCG<br>CCGAGATCGTCGAGCGACAGGCCGCCGACAGCATCGACGCCTTGATCAAGGCC<br>AAGGGAAAGCTATACTACGGAACTTGCGCCGACCAGAACCGTCTTTCGACTGG<br>AAAGTCCGCCGATGTAATCAAGGCAGACTTCGGTCAGGTAACTCCGGAGAACA<br>GCATGAAGTGGGACAGCACCGAGCCCTCCGAGGGAAACTTCAACTTCGCCGGA<br>GGTGATTACCTCGTTGACTGGGCCACGGCGAACAACAAGACGATCCGTGGGCA<br>CACTCTTTGCTGGCACTCGCAACTACCCGGTTGGGTCTCCAACATCAGGGACAA<br>GACGAAGCTGACTTCGGTCCTTGAGAACCACGTTACCACCCTGGTGACCCGGTA<br>TAAGGGCAAGATCCGCGCTTGGGATGTCGTGAACGAGATCTTCAACGAAGACG<br>GCTCTTTGCGTCAATCCGTCTTCTCCCAAGTCCTAGGCGAGGACTTCGTCCGCAT<br>TGCCTTCGAAGCTGCCCGCAAGGCCGACCCCGACGCCAAGCTGTACATTAACG<br>ACTACAACCTCGACCAGCCTAACTATGCTAAAACCACCACTGGCATGATCAAC<br>CACGTCAAGAAGTGGCTCGAAGCCGGTGTCCCCATCGACGGCATCGGATCGCA<br>AGCCCACCTCACGAGCGGTCTCGCCGCCCAAGCCGGCGCCACCATCAAGGCCC<br>TTGCCGCCAGTGGTGTCAGTGAGGTCGCTTTCACCGAAGTAGACATCCAAACCG<br>CCCCCGCCAACGACTACGCTCAGGTCACCAAGGCTTGTCTCGATGAGCCCAAGT<br>GTGTCGGTATCACCGTCTGGGGTGTCCGGGATCCCGACTCCTGGAGAGCTAGCA |

| | |
|---|---|
| | CCAACCCCCTCCTGTTCGACAGTGGCTTTAACCCTAAGCCCGCGTACACTGCTG<br>TCGTGAACGCCCTGAAATAA |
| *AsXyn2* | ATGCTCGGATCAATCCTCGTCGCCCTCACGGCGGCCGCCGGAGCCATCGCCTCG<br>CCGCTCGACCTAATCACGCGGTCGACGCCAGCGGGCACGGGCACGAACAACGG<br>GTTCTTCTACTCCTTCTGGACGGACGGGGCCGGGCAAGTGACCTACAACAACGG<br>GGACGCAGGGTCCTACGACGTGACCTGGCAGAACGTAGGCAACTTCGTCGCAG<br>GCAAGGGATGGAACCCAGGTGCCGCGCGCGTGGTGACCTACAACGGGACGTGG<br>AACGGGGCGAGCGTGAACTCGTACCTGTCGGTCTACGGCTGGACGCGCAACCC<br>GCTCATCGAGTACTACGTCGTCGAGTCCTTCGGCACGTACAACCCGTCCTCCGG<br>CGCGACGAAGCTCGGGTCCGTGGAGAGTGACGGCGGGACCTACGATGTGTACC<br>GCACGCAGAGGGTCAACCAGCCGTCGATTGATGGCACGTCCACTTTTTACCAGT<br>TCTGGTCGGTGCGCCAGCAGAAGCGCGTCGGGGGCAGTGTTACGATGCAGAAT<br>CACTTCGATGCGTGGGAGAGCGCGGGCTTGAAGTTGGGGACGCACAATTACCA<br>AATTTTGGCTACGGAGGGGTATCAGAGTAGTGGCTCGGCTAAGATTACCGTTGA<br>GCAGTCTTAG |
| *SsXyn* | ATGAATATACTAAAGACTATTGTATTAGCTGCAACAACCTTATTGAGCGTAAGT<br>GTTTTCTCTGCAGCTGTGCCCAGTATGAATCAGGAGCCCGATTCATTGCCCTTAA<br>AGAAAGCTTTTGAAGATAAGTTTTTTATCGGGACGGCCCTCAACCTCGATCAGA<br>TTTGGGAAAGGGATGCTAGGGCCGTTGCAGTCATCAAACAACAATTCAACTCC<br>ATTGTGGCTGAGAACTGCATGAAAAGTATGTTTTTGCAACCTCGCGAGGGAGAA<br>TTTTTCTTTAAAGACGCAGATCGCTTTATAGCTTTTGGCCAACAGAATAAGATGC<br>AGATCATCGGTCATACATTAATCTGGCATTCGCAGACTCCGGCTTGGTTTTTTGT<br>TGATAAAAATGGAAAAGATGTATCCAGGGATATATTGATTGAGCGCATGCGCA<br>AGCATATACATACTGTCGTGTCTCGATATAAAGGGAAGGTGTCCGGTTGGGACG<br>TTGTCAACGAAGCTATATTGGATAATGGGGAATGGCGTAAAAGTAAATTTTACG<br>AAATTATTGGTCCCGAGTTTATCAAATTGGCCTTTCAGTTTGCCCATGAAGCCGA<br>TCCCAATGCCGAATTGTATTATAATGACTATTCAACAGCCATTCCCGAAAAGCG<br>AAAAGGGATTATGGCCATGGTGCAACAGGTGAAAGCCGCTGGCGGACAGATCA<br>GTGGAATCGGTATGCAGGAACATAATGCGCTGGACAATCCATCGTTGGCAGAA<br>GTCGAGAAGACCATTCTTGGGTTTGCAGGTCTAGGCGTGAAAGTGATGGTGACA<br>GAGATGGACATTTCCGTACTTCCACATGTGCGGCCCAATATGGGGGCTGAAGTT<br>GGCGAACGCCATGCTTACCGTAAGGAGGCGAACCCCTATGAAAAAGGTTTGCC<br>GGCAGACAAGATGGCGGAACTTGGAAAACGATATGTTGACTTTTTTAGACTATA<br>TCTGAAACATCAGGATAAGATATCCCGAGTGACCCTCTGGGGTGTTGGTGACGG<br>CGATTCATGGAAAAATGGCTGGCCTATTCCTGGACGTACGGATTATCCGCTCTT<br>GTTTGACCGTCGTTATCAAGCCAAACCGTTTGTAAAAGATATTATTGCATTGACT<br>CAAAAAAAAAAGTAA |

**Table S2.** Analysis of signal peptides for the xylanases identified in this study.

| Gene name | Sequence |
|---|---|
| *AsXyn1* | MKSAILYLLAPLTALAAPAEIVERQAADSIDALIKAKGKLYYGTCADQNRLSTGKSA<br>DVIKADFGQVTPENSMKWDSTEPSEGNFNFAGGDYLVDWATANNKTIRGHTLCW<br>HSQLPGWVSNIRDKTKLTSVLENHVTTLVTRYKGKIRAWDVVNEIFNEDGSLRQSVF<br>SQVLGEDFVRIAFEAARKADPDAKLYINDYNLDQPNYAKTTTGMINHVKKWLEAG<br>VPIDGIGSQAHLTSGLAAQAGATIKALAASGVSEVAFTEVDIQTAPANDYAQVTKAC<br>LDEPKCVGITVWGVRDPDSWRASTNPLLFDSGFNPKPAYTAVVNALK |
| *AsXyn2* | MLGSILVALTAAAGAIASPLDLITRSTPAGTGTNNGFFYSFWTDGAGQVTYNNGDA<br>GSYDVTWQNVGNFVAGKGWNPGAARVVTYNGTWNGASVNSYLSVYGWTRNPLIE<br>YYVVESFGTYNPSSGATKLGSVESDGGTYDVYRTQRVNQPSIDGTSTFYQFWSVRQQ<br>KRVGGSVTMQNHFDAWESAGLKLGTHNYQILATEGYQSSGSAKITVEQS |
| *SsXyn* | MNILKTIVLAATTLLSVSVFSAAVPSMNQEPDSLPLKKAFEDKFFIGTALNLDQIWER<br>DARAVAVIKQQFNSIVAENCMKSMFLQPREGEFFFKDADRFIAFGQQNKMQIIGHTL<br>IWHSQTPAWFFVDKNGKDVSRDILIERMRKHIHTVVSRYKGKVSGWDVVNEAILDN<br>GEWRKSKFYEIIGPEFIKLAFQFAHEADPNAELYYNDYSTAIPEKRKGIMAMVQQVK<br>AAGGQISGIGMQEHNALDNPSLAEVEKTILGFAGLGVKVMVTEMDISVLPHVRPNM<br>GAEVGERHAYRKEANPYEKGLPADKMAELGKRYVDFFRLYLKHQDKISRVTLWGV<br>GDGDSWKNGWPIPGRTDYPLLFDRRYQAKPFVKDIIALTQKKK |