

Characterization of an α -L-arabinofuranosidase gene (*abf1*) from *Penicillium purpurogenum* and its expression

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Abstract

An α -L-arabinofuranosidase gene (*abf1*) from *Penicillium purpurogenum* was identified and sequenced. *abf1* has an open reading frame of 1518 bp, does not contain introns and codes for a protein of 506 amino acids. The deduced mature protein has a molecular mass of 49.6 KDa, and its sequence is homologous to arabinofuranosidases of glycosyl hydrolase family 54. Southern blots suggest that *abf1* is a single copy gene. Putative sequences for the binding of the transcriptional regulators XlnR, CreA, PacC, AlcR and AreA are present in the promoter. Northern-blot analysis shows that *abf1* is expressed at neutral but not at alkaline or acidic pH values. The presence of binding sites for regulatory elements in the promoter region has been compared to the genes of other fungal enzymes belonging to the same family. This is the first characterization of an *abf* gene from a *Penicillium* species.