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Ligand specificity of *Arabidopsis* β-glucosidase *BGLU30*

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Abstract

β-Glucosidase, a family 1 glycosyl hydrolase (GH1), encoded by *din2* in *Arabidopsis* is reported to be expressed during late phase of senescence [1, 2]. In absence of 3D structure of *Din2* (*BGLU30*), an attempt has been made to build 3D structure of the enzyme by homology modeling and to analyze the active site based upon the template structure from other β -glucosidases to decipher the function of the enzyme. The structural insight, energetics and docking of ligands reveal that Arg380 residue may play a role in the catalysis. The residue is conserved in *Arabidopsis BGLU28* and *BGLU29* β -glucosidases of GH1 also. Participation of Arg380 in the hydrolysis of β -glucoside is discussed.

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