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Review

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Proteomic researches for lignocellulose-degrading enzymes: A mini-review

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Abstract: Protective action of lignin/hemicellulose networks and crystalline structures of embedded cellulose render lignocellulose material resistant to external enzymatic attack. To eliminate this bottleneck, research has been conducted in which advanced proteomic techniques are applied to identify effective commercial hydrolytic enzymes. This mini-review summarizes researches on lignocellulose-degrading enzymes, the mechanisms of the responses of various lignocellulose-degrading strains and microbial communities to various carbon sources and various biomass substrates, post-translational modifications of lignocellulose-degrading enzymes, new lignocellulose-degrading strains, new lignocellulose-degrading enzymes and a new method of secretome analysis. The challenges in the practical use of enzymatic hydrolysis process to realize lignocellulose biorefineries are discussed, along with the prospects for the same.

Keywords: lignocellulose; secretome; proteomic approach; saccharification

1. Introduction

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