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愈创木酚与复合碳源共降解对黄孢原毛平革菌产酶的影响

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摘要: 通过正交实验法, 研究愈创木酚与复合碳源共降解对黄孢原毛平革菌产酶的影响, 同时探讨不同分子结构对酶催化机制的影响。实验结果表明: 同时添加愈创木酚及不同结构的碳源对该菌产酶有显著影响, 高浓度的愈创木酚对产酶有明显的促进作用; 在培养基中添加愈创木酚 2 mmol/L、葡萄糖 2.5 g/L 和糊精 5 g/L, 可以显著提高黄孢原毛平革菌的综合产酶能力; 黄孢原毛平革菌可以分泌纤维素酶和木聚糖酶, 而且二者之间有较好的线性正相关关系。

关键字: 愈创木酚; 复合碳源; 黄孢原毛平革菌

Influence of guaiacol and compounded carbon sources on enzymes of *Phanerochaete chrysosporium*

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Abstract: The influence of guaiacol and compounded carbons sources co-degradation on enzymes of white-rot fungi was studied through the orthogonal experiment. The results show that carbons with different structures and guaiacol have remarkable effects on enzymes secreting by *Phanerochaete chrysosporium*. High concentration of guaiacol can enhance enzymes production. After optimumization of various factors, the addition of guaiacol 2 mmol/L, glucose 2.5 g/L, dextrine 5 g/L in culture medium can significantly promote enzymes production. CMCase and xylanase produced by *Phanerochaete chrysosporium* are little affected by exterior environment. According to the correlativity between the CMCase and the xylanase analyzed using linear regression, a positive correlation the CMCase and the xylanase is found.

Key words: guaiacol; compounded carbons; *Phanerochaete chrysosporium*

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