Influence of Various Phenolic Compounds on Phenol Hydroxylase Activity of a *Trichosporon cutaneum* Strain

Maria Gerginova, Jordan Manasiev, Nedka Shivarova, and Zlatka Alexieva*

Institute of Microbiology, Bulgarian Academy of Science, Acad. G. Bontchev str., bl. 26, 1113 Sofia, Bulgaria. Fax: +3592870109. E-mail: zlatkama@microbio.bas.bg

* Author for correspondence and reprint requests

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The phenol-degrading strain *Trichosporon cutaneum* R57 utilizes various aromatic and aliphatic compounds as a sole carbon and energy source. The intracellular activities of phenol hydroxylase [EC 1.14.13.7] of a *Trichosporon cutaneum* R57 strain grown on phenol (0.5 g/l) were measured. Different toxic phenol derivatives (cresols, nitrophenols and hydroxyphenols) were used as substrates in the reaction mixture for determination of the enzyme activity. The data obtained showed that the investigated enzyme was capable to hydroxylate all applied aromatic substrates. The measured activities of phenol hydroxylase varied significantly depending on the aromatic compounds used as substrates. The rate of phenol hydroxylase activity with phenol as a substrate (1.0 U/mg total cell protein) was accepted as 100%.

Key words: Phenol Hydroxylase, Phenols, *Trichosporon cutaneum*