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# Microbial Cell-based UV Spectrometric Assay on the Analysis of Epoxide Hydrolase Activity

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Microbial cell-based UV spectrometric assay for the quantitative measurement of epoxide hydrolase activity was evaluated and optimized for the purpose of the efficient screening of whole cell activity of novel epoxide hydrolase. The wild type of *Rhodotorula glutinis* was used on this experiment. Epoxide hydrolase activity was determined by measuring the increase of the oxidized product, benzaldehyde. The effects of the various concentrations of phenyl-1,2-ethanediol, sodium metaperiodate and cells were optimized for epoxide hydrolase-catalyzed hydrolysis of styrene oxide. The concentration of DMF addition to the reaction mixture was also optimized. The relevant kinetic parameters of $K_m$ and $V_{max}$ for the hydrolysis of (*R*)-styrene oxide by *Rhodotorula glutinis* were determined from Lineweaver-Burk plot as 41.2 nmol/min · mg dcw and 7.5 mM, respectively. The results from microbial cell-based UV spectrometric assay were coincided well with those from GC analysis.

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