Pseucomonas aeruginosa TKU002所生產兒茶酚1,2-雙加氧?之純畫及定性

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ABSTRACT

A medium at pH5.5 containing sodium benzoate as the sole carbon source was used for screening of strains from soil. The selected strain was sent to Food Industrial Research and Development Institute for determination and named Pseudomonas aeruginosa TKU002. The strains used benzoate in medium and accumulated catechol as mid-product, which was further converted to cis,cis-mucomic acid by catechol 1,2-dioxygenas (C12O). The medium for optimal growing condition for strain TKU002 includes 0.05% urea for carbon source and 0.3% glycerol for nitrogen source. The C12O was purified by DEAE-Sepharose, Sephacryl S-200 and Sephacryl S-200 column chromatography . The molecular weight was about 22 kDa estimated by SDS-PAGE. The experiment determined C12O enzyme properties. The optimum pH and pH stability were 7.5 and 7~9, respectively. The optimum temperature was 40℃ and thermal stability was below 40℃. About the effect of metal ions on the enzyme, Cu2+ reduced enzyme activity and Fe2+ increased the enzyme activity slightly.

Keywords : catechol

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