

Abstract

Candida tropicalis yeast is a microorganism that possesses high tolerance for phenol and strong phenol degrading activity. This yeast is capable of utilizing phenol as the sole source of carbon and energy without formation of any secondary waste product. Catechol-1,2-dioxygenase was isolated from cytosolic fraction of this yeast by the procedure consisting of chromatography on DEAE-Sephadex and gel permeation chromatography on Sephadex G-100. The catechol-1,2-dioxygenase was purified to homogeneity. The enzyme activity was followed by HPLC (catechol consumption and/or *cis,cis*-muconic acid formation). The activity profiles at different temperatures showed temperature optimum of 30°C. Kinetic characterizations were studying in different values of pH. The values of K_m and V_{max} of 0,52 mM and 17,2 nM/min for consumption of catechol, respectively, and 0,34 mM and 12,6 nM/min for formation of *cis,cis*-muconic acid, respectively, were found at optimum pH of the reaction, pH 7,6.