

عنوان مقاله:

Bioprospecting and molecular characterization of laccase producing bacteria from industrial contaminated sites

محل انتشار:

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خلاصه مقاله:

Laccases have vast prospective for biotechnological applications due to their outstanding bioremediation potential. These include abundant applications in effluent detoxification, enzymatic conversion of chemical intermediates, wine clarification degradation of textile dyes etc. In the present study, two potential microbes were isolated on solid medium containing guaiacol and ABTS for laccase activity out of 10 microbes. Two cultures PHP7 and PKD5 were selected for molecular characterization was carried out using 16S rRNA gene technology of PHP7 revealed as *Bacillus cereus* (KU878970.1). Partial amplification of laccase gene contain conserved domain of multicopper oxidase family. The biomass produced by PHP7 was 0.053 mg/5 mL, while PKD5 was 0.058 mg/5 mL. While dye degradation of PHP7 dye of 64.28% after incubation of 6 days at pH7 whereas PKD5 shows highest degradation of dye i.e. 61.90% after incubation of 8 days at pH8. PHP7 showed highest Laccase activity of 0.489 U/L at pH 7 while PKD5 showed 0.404 U/L Laccase activity at pH 8 at 8th day of incubation. Using laccase from PHP7 and PKD5 isolates, explored at industrial level for decolorization of coloured effluents that significance in environmentally friendly and play critical role .as bioremediation at commercial scale

کلمات کلیدی:

azino-bis (3-ethylbenzthiazoline-6-sulphonic acid (ABTS), Bushnell Haans medium-2, 2 ((BHM), Guaiacol, Laccase, Ribosomal Deoxy ribonucleic acid (rDNA

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