

Isolation of Metal Tolerant Yeasts from Natural and Artificial Ecosystem

Sachin Kumar

Government PG College, Raisen, MP

ABSTRACT

Various ecosystems both natural (viz., lake, grassland, rhizospheres etc) and artificial (viz., grape, rice, wheat, millet etc dairy products and beverages) were used to isolate yeasts. Samples were collected with sterile forceps and kept in sterile plastic bags or sterile tubes and carried to laboratory in cold container within 30 minutes after sampling. Serial dilutions (10^{-1} to 10^{-10}) of each sample were prepared with sterile water and each dilution was used to inoculate onto Potato Dextrose Agar (PDA) medium supplemented with antibiotic (Chloramphenicol) and plates were incubated at 30°C for 48-96h. After 48-96 h a mix growth appeared on each plate. Yeast like growing colonies were picked up and patched on fresh prepared PDA plates. PDA media were prepared containing ZnSO_4 , PbO , CdSO_4 and NiSO_4 with final concentration 5mM. The pre-poured plates containing these media were inoculated with the isolated yeasts. The plates were incubated at 30°C for three days. Yeasts showing growth in presence of different metal ions were recorded as metal tolerant yeasts. Yeasts had been identified on the basis of morphological characters of the cell, capacity to form pseudohypha or hypha, Carbon utilization, nitrogen utilization, carbohydrates assimilation or fermentation, capacity to hydrolyze urea and other metabolic characters (Kreger-van Rij, 1984). Ability to grow in presence of higher metal concentration will indicate heavy metal tolerance. Metal tolerant yeasts have potential for use in metal bioremediation

Keywords: Yeasts, Metal tolerance, Yeast identification

How to Cite

Sachin Kumar, "Isolation of Metal Tolerant Yeasts from Natural and Artificial Ecosystem", *AIJR Abstracts*, p. 41, Mar. 2025.

