Enhancing the Production of Streptomycin from *Streptomyces Sp.* by Mutation and its Molecular Characterization

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ABSTRACT

The main objective of the work was to isolate Streptomyces sp. from soil and optimize the organism on the basis of pH, temperature, effect of carbon source, effect of nitrogen source etc. From both the methods it can be said that pH 4 and 5 is found to be the optimum pH for the *Streptomyces sp.* and an optimum temperature at 25˚C and it is observed that maltose was the effective source of carbon for the organism. Yeast extract and $NaNO_2$ were found to be effective nitrogen sources for the organism to grow. The organism isolated was mutated and the antibiotic streptomycin was produced. The purification of streptomycin was done with the help of activated charcoal. Concentration of streptomycin produced in starch casein broth after mutation was determined by HPLC analysis and characterization of the mutant was carried out by PCR technique. By HPLC analysis it was found that 0.232mg of streptomycin was produced while the PCR revealed the mutation was heritable.

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