

# Isolation and characterization of extracellular cellulase using *Bacillus subtilis* from mangrove soil

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**SUMMARY :** A novel thermostable extracellular cellulases producing *Bacillus subtilis* was isolated from Mangrove soil. The bacteria were grown on carboxymethyl cellulose agar at 45°C and screened for the cellulase activity using Congo red method. The gram staining and biochemical tests had confirmed the microorganisms as *Bacillus subtilis*. Cellulose is commonly degraded by an enzyme called "cellulase". Cellulase is used for commercial food processing in coffee, textile industry and in laundry detergents. Maximum enzymatic activity was found at following optical parameters pH 7 (0.382 IU/ml) temperature 45°C (0.620 IU/ml); nitrogen source 0.6g (0.398 IU/ml) and incubation period 5 days. In addition, protein determination of different pH, temperatures and nitrogen sources was found to be most suitable for cellulase production.

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