

Optimization and Purification of L-Asparaginase Produced by *Streptomyces tendae* TK-VL_333

Alapati Kavitha and Muvva Vijayalakshmi*

Department of Botany and Microbiology,
Acharya Nagarjuna University, Guntur – 522 510,
Andhra Pradesh, India. Fax: 0863 2293378.
E-mail: profmvijayalakshmi@rediffmail.com

* Author for correspondence and reprint requests

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Cultural factors affecting the production of L-asparaginase by *Streptomyces tendae* isolated from laterite soil samples of Guntur region were investigated on glycerol-asparagine-salts (modified ISP-5) broth. Optimal yields of L-asparaginase were recorded in the culture medium with the initial pH 7.0 incubated at 30 °C for 72 h. The strain utilized sucrose (2%) and yeast (2%) extract as carbon and nitrogen sources for L-asparaginase production. The productivity of L-asparaginase was slightly enhanced when the strain was treated with cell-disrupting agents like EDTA. The crude enzyme was purified to homogeneity by ammonium sulfate precipitation, Sephadex G-100 and CM-Sephadex G-50 gel filtration. By employing sodium dodecyl sulfate-polyacrylamide gel electrophoresis, the molecular weight of the enzyme was recorded as 97.4 kDa. This is the first report on production and purification of L-asparaginase from *S. tendae*.

Key words: Actinomycetes, *Streptomyces tendae*,
L-Asparaginase