

**Production of Nucleoside antibiotic from a local
Isolate of *Streptomyces rimosus***

A THESIS

**SUBMITTED TO THE COLLEGE OF SCIENCE,
UNIVERSITY OF BASRAH IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF MASTER OF
SCIENCE**

IN

BIOTECHNOLOGY

BY

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Summary

An Isolate of *S. rimosus* was chosen on the basis of its high antimicrobial activity and subjected to further extensive studies for antibiotic production, the best fermentation medium for antibiotic production is FM3 about 7gm/l as compared with normal fermentation medium.

Physicochemical tests (Thin Layer Chromatography) (TLC); IR-Spectrum; UV-Spectrum; Solubility in organic and inorganic solvent and other chemical tests indicated that the antibiotic produced by *S. rimosus* was nucleoside antibiotic. The antibiotic was isolated as brown color powder.

The minimal inhibitor concentration (MIC) of produced nucleoside antibiotic were determined against five standard bacteria positive and negative to gram stain, and clinical isolate *Serratia Sp.*

The acute toxicity (LD50) of produced nucleoside antibiotic was about 615 mg/kg, the cytotoxicity assay showed that the (100,150,200 ppm). Caused lysing of (RBC).

The study of optimum condition to produced nucleoside antibiotic in fermentation medium showed that the best pH(6.8-7), the addition of (13%) NaCl to the fermentation medium blocked the production of antibiotic, the best volume of inoculum is 7ml with the age 48h.