

**ANTIMICROBIAL AND WOUND HEALING
ACTIVITIES OF THE EXTRACT OF *Dissotis theifolia*
(Melastomataceae) STEM FORMULATED IN
TOPICAL PHARMACEUTICAL VEHICLE**

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Scientific Rationale & Objectives

- Herbal ointments containing methanol extract of *Dissotis theifolia* (Melastomataceae) (DTE) were formulated and evaluated for antibacterial and wound healing activities following standard protocols (Gales *et al.*, 2000; Odimegwu *et al.*, 2008).
- Ointments concentrations of (60, 90, and 120mg/g DTE) were applied to i n f e c t e d a n d u n i n f e c t e d excision wound models in albino rats and the rate of wound closure assessed by periodic wound area measurements.



Key Findings & Achievements

- The results obtained are as follows:
 - 1. MIC values for DTE range between 3.0 - 8.0 mg/ml.
 - 2. Enhanced rate of wound closure and reduced epithelialization period from 14.98 ± 0.46 and 16.8 ± 0.3 days (control groups) in non-infected and pre-infected wounds respectively to peak reductions of 8.8 ± 0.2 and 9.0 ± 0.32 days respectively at dose level 120 mg/g DTE ointment.
- The conclusions drawn:
 - DTE possess useful antibacterial and wound healing activities.



Challenges & How Resolved

1. The low yield of the stem. Hence large amounts of the plant were harvested and utilized.
2. The test for MIC could not be done using broth dilution techniques due to turbid nature of extract. Hence an adapted agar dilution test with surface streaking was employed.
3. What is the role played by the established presence of contaminating microbes on the overall progression and resolution of wounds? By setting up independent deliberately pre-infected, and non-infected wound models for our study.



Future Directions & How ANDI Can Contribute

- Further evaluation of the extract to establish the phytochemical class of the bioactive constituents.
- Clinical trials on the formulated product.
- Development of other topical drug delivery formulations to appropriately deliver this plant extract.
- ANDI can provide collaborative inputs by provision of technical support necessary for clinical trials, provision of laboratory/facilities, expert advise, and the provision of funds for procurement of necessary materials/reagents.



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- ANDI



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