

Author's Accepted Manuscript

Scientific rationale for traditional use of plants to treat tuberculosis in the eastern region of the OR Tambo district, South Africa

B. Madikizela, L.J. McGaw



PII: S0378-8741(18)30937-1
DOI: <https://doi.org/10.1016/j.jep.2018.06.002>
Reference: JEP11391

To appear in: *Journal of Ethnopharmacology*

Received date: 13 March 2018
Revised date: 30 May 2018
Accepted date: 1 June 2018

Cite this article as: B. Madikizela and L.J. McGaw, Scientific rationale for traditional use of plants to treat tuberculosis in the eastern region of the OR Tambo district, South Africa, *Journal of Ethnopharmacology*, <https://doi.org/10.1016/j.jep.2018.06.002>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Scientific rationale for traditional use of plants to treat tuberculosis in the eastern region of the OR Tambo district, South Africa

Madikizela, B., McGaw, L.J.*

Phytomedicine Programme, Department of Paraclinical Sciences, University of Pretoria, Private Bag X04, Onderstepoort, 0110 Pretoria, South Africa

***Corresponding author.** Lyndy McGaw: lyndy.mcgaw@up.ac.za

Abstract

Ethnopharmacological relevance:

Tuberculosis (TB) remains a major health problem for humans worldwide, and was responsible for 1.4 million human deaths in 2015 alone. Although there is treatment for TB, emerging multi-drug, extensively drug and totally drug resistant forms of this disease, as well as co-infection with human immunodeficiency virus (HIV) continue to worsen the situation. South Africa is among countries with reported traditional use and published documentation of such knowledge concerning the use of plants against TB. Based on a previous study where plants used traditionally for treating TB in the eastern region of OR Tambo district, South Africa, were documented, the present study aimed to determine the antimycobacterial effect, cytotoxicity and genotoxicity of plants selected from that list.

Material and methods:

Acetone, 70% ethanol, cold and hot water extracts were tested for antimycobacterial activity against saprophytic *Mycobacterium* species including *M. aurum*, *M. bovis* BCG, *M. goodii*, *M. fortuitum*, and *M. smegmatis* using a microdilution method. Extracts with MIC values less than 1 mg/ml against at least three *Mycobacterium* strains were evaluated for antimycobacterial activity against pathogenic *Mycobacterium* strains including *M. tuberculosis* H37RV, *M. tuberculosis* and *M. bovis*, cytotoxicity (against Vero monkey kidney and bovine dermis cells), and genotoxicity (against *Salmonella typhimurium* TA98 and TA100).

Results:

Download English Version:

<https://daneshyari.com/en/article/8532142>

Download Persian Version:

<https://daneshyari.com/article/8532142>

[Daneshyari.com](https://daneshyari.com)