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## Comparative *in vitro* cytotoxic, anti-inflammatory and anti-microbiological activities of two indigenous Venda medicinal plants

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The Vhembe region of the Limpopo province has a rich tradition of medicinal plants use. Traditionally, boiled roots of *Ziziphus mucronata* are used in the treatment of boils, general swelling and other skin infections. A combination of leaf paste and root infusion treats measles, dysentery, chest complains, and gland swelling. *Pterocarpus angolensis* is famous for the treatment of menorrhagia, infertility in women, wounds and pain management. The purpose of the present study was to compare the cytotoxicity, anti-inflammatory potential and anti-microbial activities of *Ziziphus mucronata* and *Pterocarpus angolensis* from the Vhembe region. U937, MeWo, Vero and RAW 264.7 cells were treated to various concentrations (50, 100, or 125 or 250 µg/ml depending on assays) of *Ziziphus mucronata* and *Pterocarpus angolensis*. Cytotoxicity assay was done using MTT; Anti-inflammatory activity was assessed using NO production; Anti-bacterial activity was done using the Micro-Broth dilution method and Anti-mycobacteria activity was determined using the Alamar Blue Method while RT activity was measured by ELISA. Cytotoxicity results showed that *Pterocarpus* was more toxic than *Ziziphus* as observed in the Vero and MeWo cells; however both displayed toxicity towards a Human cancer cell line. Both extracts did not inhibit nitrate production but induced significant increase in macrophage activation. The plant extracts have shown anti-tuberculosis activity at concentrations >500µg/ml and there was moderation inhibition of HIV replication. The results obtained indicated that the extracts have pro-inflammatory properties, and the observed toxicity on malignant cell lines must be investigated further for promising anti-cancer drug therapy.

### Biography

Muendi T Sigidi is a PhD student from the University of Venda in South Africa. She worked for the National Institute of Communicable Diseases (NICD), Mycology Reference Unit for 3 years as a Scientist. Currently, she is a part time Lecture in the Department of Microbiology in the University of Venda. She has commenced the PhD degree in January 2014 and its due for completion is at the end of 2016.

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