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Phytochemical screening and cytotoxicity activity of crude extracts from *Pleurostylia capensis* (Celastracea)

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Pleurostylia capensis have been traditionally used in combination with other plants for treatment of osteoarthritis by the indigenous people of Venda in Limpopo Province of South Africa. The preliminary screening of the phytochemical properties and the cytotoxic effect of the crude extract of this plant have not been identified. In the present study, the cytotoxicity effect of *Pleurostylia capensis* crude extract was investigated and the phytochemical properties were screened.

The bark and roots of *P. capensis* extracts in the following solvents (ethanol, chloroform, dichloromethane, ethyl acetate and water) were screened for phytochemical properties to test for the present of alkaloids, trepanoids, steroids, flavanoids and tannis. The extracts were also tested for cytotoxic activity on the Hek cells and condrocytes using the MTT assay and x-CELLigence.

The extracts of *P. capensis* contain classes of secondary metabolites such as alkaloids, tannins, steroids and trepanoids. The cytotoxic effects of the *P. capensis* extracts on the Hek cells showed non-toxic on the water roots and bark extract at lower concentration of above 100. 0 µg/mL with cell viability of above 150% (IC_{50} 204.0 and 207.3 µg/mL) respectively and with the chondrocytes water roots and bark extracts was non-toxic to the cell on x-CELLigence with cell index of above 1800 at lower concentration of 100.0 µg/mL.

It is very exciting to see that water extracts did not have any toxic effects on the cells, since traditional healers normally use water as their solvent.

Biography

S. C. K. M. Motaung receives a Fulbright Scholarship to pursue part of her Ph.D. at University of California, Davis, USA. Dr. Shirley has completed her Ph.D. from Tshwane University of Technology in collaboration with University of California, Davis. She is currently the Section Head of Department of Biomedical Sciences, Tshwane University of Technology. She has published articles in accredited journals and serves as a reviewer for Journal of Tissue Engineering and Regenerative Medicine and Journal of Ethnopharmacology. Her research interests include: tissue regeneration of cartilage using medicinal plants, cytokines, stem cells and scaffolds for tissue engineering and regenerative medicine.