

Public Abstract

First Name:Yi-Chun

Middle Name:

Last Name:Chen

Adviser's First Name:Ingolf U.

Adviser's Last Name:Gruen

Co-Adviser's First Name:

Co-Adviser's Last Name:

Graduation Term:WS 2007

Department:Food Science

Degree:MA

Title:Bioactivities of Selected *Sutherlandia frutescens* (L.) R. Br. Leaf Extracts

*Sutherlandia frutescens* (L.) R. Br. (family: Fabaceae) is one of the best known multi-purpose medicinal plants in South Africa for treating a wide range of human ailments including cancer, viral diseases, diabetes and inflammatory conditions. However, little scientific evidence has been documented regarding the mechanism in which *Sutherlandia frutescens* acts on the immune system of human body. In this study, dried *Sutherlandia frutescens* leaves were extracted with solvents with different polarity for investigating the antioxidant and anti-cancer activity, as well as the total polyphenol and L-canavanine content of the leaves.

The results suggest that all the *Sutherlandia frutescens* extracts obtained in this study contained polyphenols and L-canavanine, and exhibited antioxidant as well as anti-cancer activities at different levels. The antioxidant activities are generally associated with polyphenols while the anti-cancer activities are not as well correlated to the L-canavanine content, which suggests that L-canavanine is only one of the constituents contributing to *Sutherlandia frutescens* anti-cancer effect. These findings offer a starting point for further study on the isolation, purification and investigation of the active principles responsible for the numerous health claims of this South Africa medicinal plant.