BIOACTIVITIES OF SELECTED SUTHERLANDIA FRUTESCENS (L.) R. BR. LEAF EXTRACTS

Yi-Chun Chen

Dr. Ingolf U. Grün, Thesis Supervisor

ABSTRACT

Sutherlandia frutescens (L.) R. Br. (family: Fabaceae) is a medicinal plant widely used by traditional healers in South Africa for treating various human ailments. In this study, the *Sutherlandia frutescens* leaf powder was extracted with methanol and further subsequently fractionated with chloroform, ethyl acetate, and 1-butanol for investigating total phenolic content, L-canavanine content, DPPH free radical scavenging activity and anti-tumor activities on PC-3 and LNCaP prostate tumor cell lines of obtained extracts.

According to the results, all *Sutherlandia frutescens* extracts contained phenolic compounds and L-canavanine, and exhibited DPPH radical scavenging activity and anti-tumor activity (growth inhibition effect on human prostate tumor cell lines) at different levels. While DPPH scavenging activity was generally associated with total phenolic content, anti-tumor activity could not be linked closely to L-canavanine content. These findings provide a starting point and warrant further research to investigate the mechanisms for the health claims of *Sutherlandia frutescens*.