Mitracarpus scaber: phytochemical study and biological activity of various extracts

Armel Frédéric NAMKONA[a,b], Sylvie CAZAUX[a], Jean Laurent SYSSA MAGALÉ[b], Hubert MATONDO[a], Jalloul BOUAJILA[a]

[a]Laboratory of Molecular Interactions and Chemical and Photochemical Reactivity *UMR CNRS 5623, Faculty of pharmacy of Toulouse, University Paul-Sabatier, 118 route de Narbonne, F-31062 Toulouse, France*

[b]*Laboratory of Analysis, Architecture and Reactivity of Natural Substances (LAARSN), Faculty of Sciences, University of Bangui, BP 908 Bangui, Central African Republic*

Mail : namkof2000@yahoo.fr

Tel: (00236) 72 7282 26

Abstract

In this study, the antioxidant and anti-cancer activities of the extracts (cyclohexane, dichloromethane, ethyl acetate and methanol) *Mitracarpus scaber* was measured. The chemical composition of various extracts was also quantified and identified. Extracts (methanol, dichloromethane) showed good antioxidant activity respectively (DPPH) with inhibitory concentrations (IC50) of 94.4±1.0 and 247.2.5±3.1 mg/L. cyclohexane and dichloromethane extracts were anticancer effect with higher percentages of inhibition of the order of **72,3±9,3%** and 57,5±4,8% for the line IGROV to line OVAR, ethyl acetate and dichloromethane extracts have more anticancer activity **45,1±8,8%** and 41,8±4,4%. The concentration of 50 mg/L was used for the anticancer activity studies. Phytochemical analysis showed phenolic dose (3,2±0,2 to 63,2±3,0 mg gallic acid equivalents (GAE)), flavonoids (1,1±0,4 to 2,0±0,2 mg quercetin equivalents (EQ)), tannins (0,1±0,0 to 1,0±0,1 mg catechin equivalents (CE)) and anthocyanins (0,7±0,1 to 3,0±1,3 mg equivalent cyanidin-3-glucoside (C3GE)). The chemical composition of extracts before and after derivatization was analyzed by gas chromatography-mass spectrometry (GC-MS) and flame ionization detection chromatography gas chromatography (GC-FID) respectively. Fourteen compounds have been identified. The phytochimical composition content of plant extracts have been correlated with the biological activities.

Keywords: Antioxidant activity, cytotoxic activity, phytochemistry, GC-MS, extracts, *Mitracarpus scaber*.