Phytochemical Screening and Identification of Contraceptive Related Phytochemicals of *Asparagus africanus* Lam. Using Gas Chromatography Mass Spectrometry (GC/MS)

Abubakar El-Ishaq¹, ², Mohammed Abdullah Alshawsh¹, Zamri Chik¹, ³

¹Department of Pharmacology, Faculty of Medicine, University of Malaya, 50603 Kuala Lumpur, Malaysia, ²Science Laboratory Technology Department, School of Science and Technology, Federal Polytechnic, P.M.B. 1006 Damaturu, Nigeria, ³Department of Clinical Pharmacy, Faculty of Pharmacy, Jazan University, Kingdom of Saudi Arabia

*Asparagus africanus* Lam is used traditionally in remedies as medicinal plant for treatment of various gastrointestinal disorders, headache, backache, stomach pain and for birth related uses. Therapeutic potentials of substances from different parts of the plant had been reported too, but only a few percentages have been fully elucidated. The aim of this study is to screen the root part of *A. africanus* Lam for the possible presence of bioactive contraceptive phytochemicals in its hexane fraction. The phytochemical analysis was carried out using gas chromatography mass spectrometry (GC/MS) and the obtained chromatograms were transferred to national institute of standards and technology MS search library for the possible compound detection and interpretable chemical and structural identification. Qualitative phytochemical screening were also carried out for tannins, flavonoids, alkaloids, saponins, and steroids. GC/MS analysis showed 11 peaks indicating the presence of 11 possible phytochemicals with likely different therapeutic functions. The major phytoconstituents with steroidal nucleus were stigmasterol, spirostan, tigogenin, and androstane. Furthermore, classical/manual phytochemical screening revealed the presence of flavonoids and saponins, but devoid of alkaloids and tannins. Based on the findings from this study, *A. africanus* contains some potential steroidal compounds, which could explain the traditional uses of the root part of this plant as contraceptive, however this finding needs further pharmacological studies to confirm the contraceptive activity.