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Recent findings on anti-tumoral and antioxidant triterpenesaponins from some Cameroonian medicinal plants

Tapondjou A Leon[1], Nzowa K L[1], Ponou K B[1], Teponno R B[1], Ricciutelli M[2],Quassinti L[2], Bramucci M[2], Lupidi G[2] and **Barboni L[2]**
[1]University of Dschang, Cameroon
[2]University of Camerino, Italy

Saponins are naturally occuring sugar conjugates of triterpene or steroid aglycones. The classical definition of saponins is based on their surface activity. Many of them have detergent properties, possess the property of forming stable froth when shaken with water, have a bitter taste and are toxic to fish (piscicidal). These attributes while not common to all saponins have frequently been used to characterise this class of natural products. However because of the numerous exceptions that exist, saponins are more conveniently defined on the basis of their molecular structure, namely as triterpene or steroid glycosides. They have been shown to possess a broad spectrum of biological and pharmacological activities and a considerable litterature has already been accumulated concerning these activities of saponins although very few reports are made on their antioxidant activities. The presenrt paper summarize some of our important reports on the chemistry and pharmacological properties of saponins recently isolated from some Cameroonian medicinal plants. These findings became possible with the advent of new trends of isolation and structural elucidation mainly based on NMR spectroscopy,.and the main pharmacological properties of saponins highlighted here concern cancer-related and antioxidant activities.Recent studies indicated significant anti-inflammatory and antioxidant properties of saponins which may be responsible for the antitumor property. Thus interest has increased considerably in finding vegetable saponins with antioxidant properties. At the present time, much attention is being paid to antioxidant substances because many pathological conditions are associated with oxidative stress and antioxidant capacity is widely used as a parameter to characterize food, medicinal plants and their bioactive components. The saponins presented in this paper have beenisolated from ten cameroonian medicinal plants belonging to Mimosaceae, Combretaceae, Sapotaceae and Agavaceae family. They were evaluated for their antioxidant properties (scavenging activity against DPPH and $ABTS^{+}$. radicals) and further for their anti-proliferative activity against human glioblastoma (T98G), human squamous carcinoma (A431), human prostatic adenocarcinoma (PC3), mouse melanoma (B16-F1), breast (MDA-MB-231) and colon (HCT116) cell lines and the results are herein reported.

Biography

Tapondjou Azefack Leon completed his Ph.Din 2003 in the field of natural product chemistry at the University of Yaounde, Cameroon. He did his postdoctoral studiesat the University of Burgundy, France and have been invited as visiting scientist in various universities namely the H.E.J Research Institute of Chemistry, University of Karachi in Pakistan; the Department of Pharmaceutical Engineering at Sangji University, South Korea; the Institute of Pharmacy of the Free University of Berlin, Germany. He is the director of the Laboratory of Environmental and Applied Chemistry at the University of Dschang. He is an Humboldt Foundation fellow and has published 47 articles in reputed journals in the field of natural product chemistry and has under today's date supervised 6 Ph.D and more than 30 master thesis.

tapondjou2001@yahoo.fr