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오가피 열매로부터 분리한 신규 Triterpenoid의 세포독성 효과

경희대학교 : 이대영, 서경화, 유기현, 이민호, 정인식, 백남인*
정선군농업기술센터 : 최대성

New Cytotoxic Triterpenoids from *Acanthopanax sessiliflorus* Fruits

[1]Graduate School of Biotechnology and Department of Oriental Medicinal Materials & Processing, Kyung Hee University, Yongin 446-701, Korea.
[2]Jeongseon Agricultural Extension Center, Jeongseon 233-852, Korea.
Dae-Young Lee[1], Kyeong-Hwa Seo[1], Ki-Hyun Yoo[1], Min-Ho Lee[1], In-Sik Chung[1], Dae-Sung Cheoi[2], Nam-In Baek[1*]

Objectives

Acanthopanax sessiliflorus (Araliaceae) is a shrub present mainly in Korea, China and Japan and is known to be one of the most abundant species. *Acanthopanax* species have been used as a tonic and prophylactic in oriental herbal medication from olden times. The leaves and roots of this species have been also taken as a health drink and drug in Korea. Its fruits have been reported to have anti-tumor and immuno-stimulating activities. However, up to now, only few chemical constituents, such as ursolic acid, scoparone, hyperin, and sessiline have been isolated from *A. sessiliflorus* fruits.

Materials and Methods

^{1}H-NMR (400 MHz), ^{13}C-NMR (100 MHz) and 2D-NMR spectra were recorded on a Varian Unity Inova AS-400 FT-NMR spectrometer. Methanol-d_4 with TMS as an internal standard was purchased from Sigma. RPMI Medium 1640, Dulbecco's Modified Eagle Medium and Penicillin-Streptomycin were purchased from GIBCO. FBS was from Hyclone. MTT and DMSO were purchased from Sigma. The methanol extract was fractionated into an EtOAc layer, an *n*-BuOH layer and a H_2O layer through solvent fractionation. The repeated SiO_2, ODS and Sephadex LH-20 c. c. of EtOAc fractions yielded four compounds (**1-4**).

Results

Our phytochemical study on the fruits of this plant led to isolation and structure determination of two new seco-triterpenoids (**1, 2**) together with chiisanoside (**3**) and 22-*a*-hydroxychiisanogenin (**4**). From the results of spectroscopic data including EIMS, FABMS, UV, IR, ^{1}H and ^{13}C-NMR, DEPT and 2D-NMR (COSY, HSQC, HMBC), All isolated compounds and ethanolic extract were evaluated for their

Corresponding author : Nam-In Baek E-mail : nibaek@khu.ac.kr Tel : 031-201-2661

cytotoxicity against human colon carcinoma (HCT-116), human breast carcinoma (MCF-7), human breast carcinoma (SK-BR-3), human ovary carcinoma (SK-OV-3), and human melanoma (SK-MEL-5) using the MTT assay.

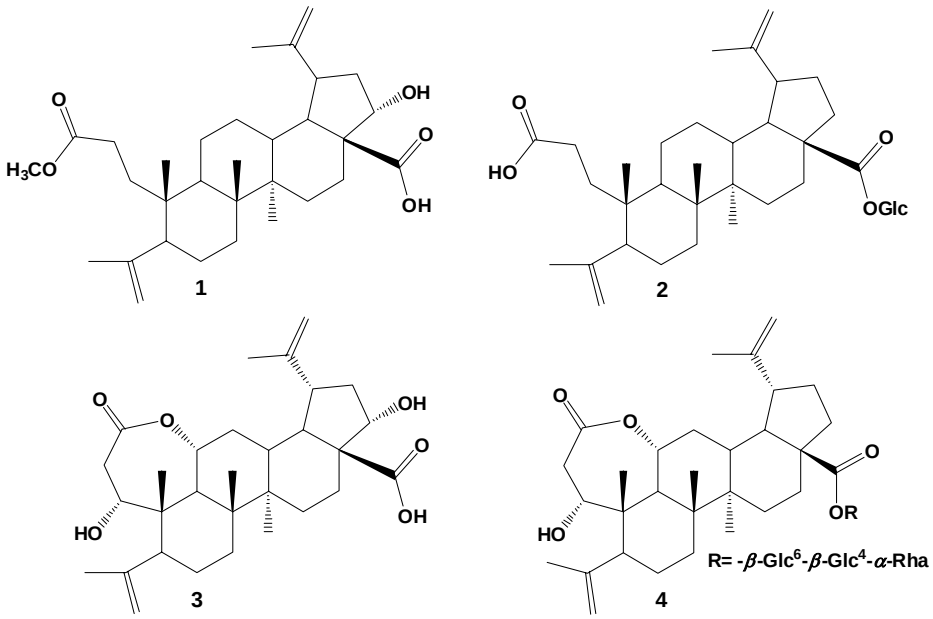

Fig. 1. Chemical structures of triterpenoids from *A. sessiliflorus* Fruits