Moon HI°, Ahn KT, Oh JS, Choi B, Hong SI, Lee KR, Zee OP

Pharmacognosy Lab, Sung Kyun Kwan University

The root of Angelica gigas Nakai.(Umbelliferae) has been used as an analgesic and fever remedy, and for treatment of blood pressure in Chinese medicine, whereas the freshly young shoots are used for edible food. The fresh leaves have unique flavor and the components of essential oil were determinded. However, there are no further chemical works nor are there any reports on biological activity of extracts from leaves of this species. This experiment describes isolate and elucidate structure of the components from leaves and to evluate the radical Scavenging activity on DPPH radical for antioxidant effect. Bioassay guided fractionation of MeOH extract affforded active EtOAc and BuOH fracons. The most active EtOAc fraction was repeatedly chromatographed over silica and Sephadex LH-20 to afford six flavonoid compounds. Studies on the antioxidant activity of these constituents show that quercetin was the most active of these compounds. Luteolin and kaempherol are also active, These results suggested that the antioxidant activity of leaves of Angelica gigas may be due to flavonoid components. All the compounds were identified by spectroscopic methods and are the first report from leaves of Angelica gigas Nakai.

[PD2-16] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

New Bioactive Furanosesterterpenes from a Dictyoceratid Sponge

Liu YH°, Jung JH, Im KS, Bae BH, Hong JK, Alam N

College of Pharmacy, Pusan National University, Korea Basic Science Institute,Taejon

Five new and two known furanosesterterpenes were isolated from unidentifed Dictyoceratid sponge by bioactivity guided fractionation.These compounds showed a significant toxicity to brine shrimp larvae.The gross structures were established by spectroscopic methods, the absolute stereochemistry were not determined.

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Cytotoxic Constituents from Notopterygium incisum

Nam Nguyen-Hai°, Huong Ha-Thi-Thanh, Kim Hwan-Mook* and Ahn Byung-Zun

College of Pharmacy, Chungnam National University, Taejon 305-764, Korea; *Korea Research Institute of Bioscience and Biotechnology, KIST, Taejon 305-600, Korea

Notopterygium incisum is a perennial herb growing widely in Asian countries. In the search for novel antitumor agents from Vietnamese medicinal plants we found that the methanol (MeOH) extract of N. incisum showed a strong cytotoxicity against B16 murine melanoma cell line. The MeOH extract was sequentially fractionated against ethyl acetate (EA) and butanol (BuOH). Subsequent bioassay revealed the antitumor cytotoxicity was almost located in the EA fraction. Bioassay-guided fractionation and isolation afforded three furanocoumarins including bergamottin, isoimperatorin, notopterol and one polyacetylenic compound (falcarindiol) together with one phenylpropanoid (caffeic acid methyl ester) and one triterpenoid (pregnenolone). This is the first report on the presence of caffeic acid methyl ester from N. incisum. All isolates were evaluated for cytotoxic activity against a small panel of cancer cell lines including B16 (murine melanoma), P388 (murine lymphocytic leukemia), A549 (human lung carcinoma), and SK-OV-3 (human ovarian cancer). It was found that all furanocoumarins and pregnenolone were inactive. Falcarindiol, which had been found to be a cytotoxic compound previously, showed a significant cytotoxic activity in all tested cell lines. It is noteworthy that caffeic acid methyl ester exhibited a significant cytotoxicity profile. Its cytotoxicity was higher than that of 5-FU and comparable to the cytotoxicity of etoposide but lower