P.49 가시오가피로부터 apoptosis 유발물질의 탐색

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Three Apoptosis-inducing acetylenic metabolites from *Acanthopanax senticosus*

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Introduction Pharmacological manipulations in the growth inhibitory and the anti-proliferative effects on malignant cells through the induction of programmed cell death, or apoptosis, have been recognized as a novel strategy for the identification and screening of potential anti-cancer drugs. In the course of on-going search for potent inducers of apoptosis from natural resources, the hexane-soluble extract of *Acanthopanax senticosus* Harms was found to induce apoptosis in human leukemia HL-60 cells.

Materials & Methods

The hexane-soluble extract of *Acanthopanax senticosus* Harms was fractionated and purified by various chromatographic methods. The structure of the active compounds was determined by the combination of NMR and MS spectroscopic methods. Induction of apoptosis was analysized by DNA fragmentation analysis, flow cytometric analysis, and morphological analysis, etc.**Results**

-Bio-assay guided fractionations of the extract led us to the isolation of three acetylenic compounds with potent apoptosis-inducing activity.

-The structures of the compounds were determined as 8-hydroxy-panaxydol (**1**), panaxydol (**2**), and heptadeca-1,8-dien-4,6-diyn-3,10-diol (**3**)

-The compounds induce apoptosis in a dose-dependant manner.

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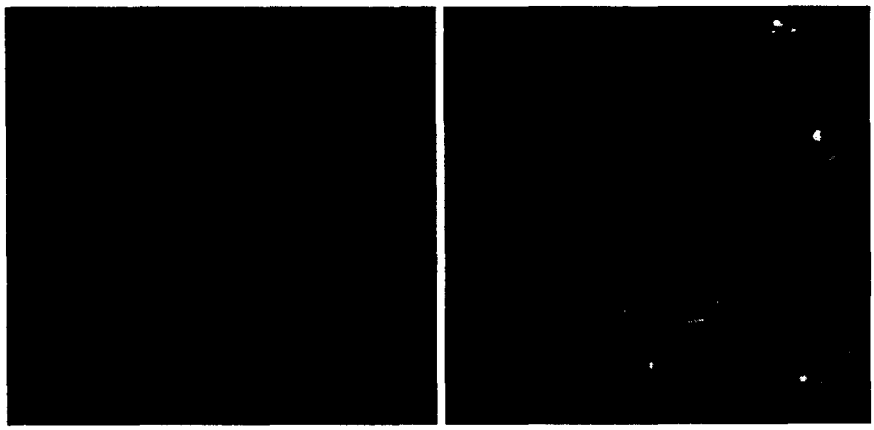
(A)

Control

Compound **1** (1000 μg/ml)



(B)

Compound **1** (μg/mL)

0 10 100 500 1000

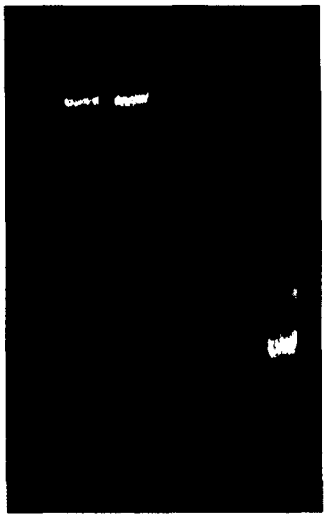


Figure. (A) Typical examples of fluorescence microscopy pictures of both untreated (control) and compound **1** treated HL-60 cells in which apoptosis was induced with 1000 μg/ml of **1** for 12 h. DAPI dye was used to stain the DNA of shrunken nuclei (arrows) in the fluorescence pictures. (B) The dose dependency of compound **1** in inducing DNA fragmentation for 12 h in HL-60 cells.