

네팔 수집 약용식물의 항산화 및 항암 활성

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Antioxidant and Anticancer Activities of Medicinal Plants Collected from Nepal

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Objectives

In the country of Nepal, over 90% of the population depend on traditional plant remedies. The diverse regions, which vary from low altitude plains to rugged hills and mountains, together with the seasonal climatic changes(particularly the monsoon season) provide an abundance of medicinal plant diversity.

This study were conducted to find antioxidant and anticancer activities by 69 species medicinal plants collected from Nepal.

Materials and Methods

○ Materials

The medicinal plants of 69 species were collected from Nepal in 2005. Samples were extracted with methanol at 40°C using sonicator for 30min. The extracts were dried by rotary vacuum evaporator.

○ Antioxidant activity

Antioxidant activities of the extracts were measured by scavenging the DPPH (1,1-diphenyl-2-picrylhydrazyl) free radical in process guided by its discoloration. Each sample stock solutions (0.50mg/ml) were diluted to final concentrations of 300µg/ml, 100µg/ml and 33µg/ml, in methanol. 150µl of 150µM DPPH methanol solution was added to 100µl of sample solutions of each different concentrations, and allowed to react at room temperature. After 30min the absorbance values were measured at 518nm using microplate reader.

○ Anticancer activity

To evaluate effects of extracts on the cell viability, a Cytotoxicity assay was performed. The Cells(HeLa cell lines; cervical cancer) were seeded onto 96-well plates at $10^4 \sim 10^5/ml$, then cultured in 5% CO₂ incubator at 37°C for 8h. 2, 10, 50, 200µg/µl of drugs were injected at each well and cultured at same condition for 16h. After cell seeding, 10µl of CCK-8 solution was added and cells were incubated for a further 1~4h. The absorbance was measured at 450nm using microplate reader.

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