

F-F1-19

Cytotoxic and Antioxidative Effects of the Methanol Extract of Skullcap (*Scutellaria baicalensis* G.) Roots

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This study was carried out to determine the cytotoxic and antioxidant activity in plant extracts of the *Scutellaria baicalensis* G. Antioxidant activity (RC₅₀) was shown higher in extracts of root (31.53 ug/ml) than BHT (58.26 ug/ml) as a synthetic antioxidant. The lowest DPPH values were obtained from extracts of skullcap and followed by ascorbic acid and BHT, showing that the extracts from dried root possess the strongest antioxidant activity. Cytotoxic effects of skullcap root extracts on human cancer cell lines (Calu-6; lung cancer cell, MCF-6; breast cancer cell) was investigated by MTT assay. The methanol extract of skullcap root showed the strongest anticancer effects on Calu-6 cells than MCF-6. The cytotoxic effects of skullcap on Calu-6 and MCF-7 cells was 92% and 67%, respectively a dose of 200 ug/ml of of extracts. These results suggest that extracts of *Scutellaria baicalensis* G would be a promising antioxidant source as an alternative antioxidant, based on natural plant resources. Also, the extract is an effective modulator in controlling the activity of cancer cell in human Calu-6 cells.

-Acknowledgements-

This work was supported by a grant from BioGreen 21 Program, Rural Development Administration, Republic of Korea.

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Antioxidant, Cytotoxicity and Chemosensitizing Effects of Trichosanthis Semen (*Trichosanthes kirilowi*) Extracts

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Trichosanthes kirilowi is a traditional medicine plant, widely cultured in Asia, Which has been used as a constipation, jaundice, consumption, and thirst. The extract of persimmon leaf exhibited strong antioxidant activity when compared to BHT in 1,1-diphenyl-2-picryl-hydrazyl (DPPH) method. Antioxidant activity (RC₅₀) was shown lower in trichosanthis semen extracts (256 ug/ml) than BHT (58.26 ug/ml) as a synthetic antioxidant. The cytotoxic effect in vitro on the growth of human lung cancer cell (Calu-6) was evaluated by methyletrazolinm (MTT) assay. Also multidrug resistance reversing activity was evaluated using drug sensitive AML-2/WT and multidrug resistance AML-2/D100 cells. the trichosanthis semen extracts showed the strongest inhibitory effects on Calu-7 (IC₅₀=78 ug/ml) and AML-2/WT (IC₅₀=308 ug/ml). Chemosensitizing effect was the trichosanthis semen extracts (IC₅₀=202 ug/ml, RF = 1.4) strongly potentiate vincristine cytotoxicity in AML-2/D100 cells. This results indicated that the trichosanthis semen extracts would contain some principles which have chemosensitizing activity.

-Acknowledgements-

This work was supported by a grant from BioGreen 21 Program, Rural Development Administration, Republic of Korea.

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