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Chemosensitizing Activity Against Human Leukemia Cell of Crude Extracts of Native Camellia(*Camellia japonica*) in Jeonnam

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This study has been undertaken to increase availability of native camellia in Jeonnam as a medicinal resource and to isolate the effective components from them. Multidrug resistance(MDR) by tumor cells is a major obstacle to successful cancer chemotherapy. We report that the crude extracts of camellia flowers, leaves has a chemosensitizing effect that can reverse Pgp-mediated MDR by increasing the intracellular accumulation of drugs.

The cytotoxic and chemosensitizing effects of MeOH extract from 12 spp. citrus fruits on the AML-2/D100 were determined using MTT assay. Chemosensitizing effects was screened in the presence of vincristine, a good substrate of Pgp. IC_{50} for extracts in AML-2/WT was found to be 65~350$\mu g/m\ell$ whereas the range of its mean IC_{50} value in Pgp-overexpressing cells(AML-2/D100) in the presence of vincristine was 90~400$\mu g/m\ell$. Of the extracts tested, mature leaf extract displayed the most potent chemosensitizing effect[IC_{50};100$\mu g/m\ell$, CR;1.06, RF;2.97 in the presence of VCR]. This indicates that the toxicity(IC_{50};288.89$\mu g/m\ell$) of mature leaf extract is minimal at concentrations required for a complete reversal of the drug resistance. Also, this result indicates that crude extracts of camellia mature leaves would contain some principles which have chemosensitizing activity.

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