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식물추출물의 다제내성 극복효과

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Multidrug-Resistance Reversing Activity of Extracts from Plant.

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Objectives

In This study, multidrug resistance reversing activity were evaluated using drug sensitive AML-2/WT and multidrug resistant AML-2/D100 cells from plant extracts(*Arisaema amurense*, *Lycium barbarum*, *Coptis chinensis* Franch, *Carthamus tinctorius* and *Taraxacum plarycarpum.*)

Materials and Methods

Cell culture

AML-2/wt and AML/2/D100 cell was maintained α-MEM(Gibco-BRL) supplemented with 10% heat-inactivated fetal bovine serum(FBS), 1% Antimycotic antibiotic, in a humidified 5% CO2 incubator.

Measurement

AML-2/wt and AML/2/D100 cell extracts in concentrations of 25-400㎍/㎖ were treated. Subsequently, cell survival rate was then measured by MTT assay.

Result

Result of plant extracts multidrug-resistance reversing activity were evaluated using drug sensitive AML-2/WT and multidrug-resistant AML-2/D100 cells.
Chemosensitizing effect was eath extracts of *Arisaema amurense* (IC_{50}=86.12㎍/㎖, CI=1.40), *Lycium barbarum* (IC_{50}=800 ≥), *Coptis chinensis* Franch(IC_{50}=124.32㎍/㎖, CI=1.88), *Carthamus tinctorius* (IC_{50}=189.94㎍/㎖, CI=1.23) and *Taraxacum plarycarpum.*(IC_{50}=129.60㎍/㎖, CI=1.51) strongly potentiate vincristine cytotoxicity in AML-2/D100 cells.

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Table 1. Effects of plant extracts on the cell growth of drug sensitive AML-2/WT and resistant AML-2/D100 cells.

Drug	IC_{50}[1] of AML-2/WT[2]	CR[3]	IC_{50} of AML-2/D100[4] (μg/mℓ)		CI[6]
			VCR[5]-	VCR+	
Arisaema amurense	148.62	1.23	121.07	86.12	1.41
Lycium barbarum	800 ≥	1≥	800 ≥	800 ≥	1≥
Coptis chinensis Franch	29.99	0.13	233.31	124.32	1.88
Carthamus tinctorius	218.51	0.94	233.32	189.94	1.23
Taraxacum plarycarpum	223.86	1.15	195.28	129.60	1.51

Date were presented as means±SD (n=3).

[1]Extract concentrations which inhibit 50% growth of the cells

[2]Wild type [3]Cross resistance(CR)=IC_{50} of AML-2/WT/IC_{50} of AML-2/D100 without vincristine [4]Daunorubicin 100nM [5]Vincristine

[6]Chemosensitizing index(CI) = IC_{50} of AML-2/D100 without vincristine/IC_{50} of AML-2/D100 with vincristine