

Phytochemical Survey of Herb Drugs (IV)*

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禹麟根·金濟勳：漢藥의 植物化學的 調查 (IV)

漢藥 45 種에 對하여 植物化學的 調查를 하고 그 中 알카로이드의 存在를 檢出한 結果를 報告한다.

As the projects of this institute, a hundred and sixtyfive species of plants which are used currently as herb drugs in Korea were screened on the presence of alkaloids, phenolic compounds, flavonoids, chalcones, lactones, glucosides, carbohydrates, terpenoids, steroids, proteins, polypeptides, saponins, and organic acids,¹⁻³⁾ and the most reliable presence of alkaloids was detected by paper chromatograph.⁴⁻⁶⁾ In this paper, presence of alkaloids is added by screening of 45 species.

EXPERIMENTAL AND RESULT

Plant material pharmacognostically identified was extracted respectively with water, alcohol and ether at room temperature.

The solvent was removed from the extracts using vacuum when necessary. 10 to 20 g. of each extract was dissolved in 10% hydrochloric acid solution and extracted with ether. The water layer was made alkaline and extracted with chloroform. The chloroform layer was evaporated and the residue was dissolved in diluted hydrochloric acid solution to be subjected to alkaloid test by Meyer's reagent.

Paper chromatography was carried out on the fraction which responded to the alkaloid reaction. Rf values, developer, color reagents and condition are presented in Table I.

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Table I.—The *R_f* values detected. Solvent mixture: BHH, BuOH-H₂O-AcOH (5:4:1); AB, 0.1% aqueous ammonia-BuOH (1:1); BH, BuOH-2% HCl (96:20). The ascending method was used with Whatman No. 1 paper at room temp. Detecting reagents: F, fluorescence; C, Chargeff's reagent; PI, 2% platinum chloride iodine solution; I, iodine; N, ninhydrin reagent.

Plant	Part used	Extract	AB	<i>R_f</i> BH	BHH	Alkaloid previously reported
<i>Liliaceae</i>						
<i>Convallaria Keiskei</i> MIQUEL	Herba	MeOH	0.92(F.I)	0.89(F.I)	0.90(I.C)	
<i>Oleaceae</i>						
<i>Fraxinus rhynchophylla</i> HANCE	Cortex	MeOH	0.48(F.I)	0.87(F.I)	0.92(F.I)	
<i>Corylaceae</i>						
<i>Corylus heterophylla</i> FISCHER	Cortex	H ₂ O	0.21(F)	0.76(F)	0.84(F)	
<i>var. japonica</i> KOIDZUMI			0.46(F)	0.87(I)	0.90(F.I)	
			0.63(I)			
			0.78(F)			
		MeOH	0.43(F)	0.74(F)	0.80(F)	
			0.61(F)	0.83(I)	0.88(I)	
			0.78(F.I)			
			0.87(I)			
<i>Viscaceae</i>						
<i>Viscum coloratum</i> NAKAI	Whole plant	MeOH	0.89(I.C)	0.90(I.C)	0.90(I.C)	
<i>var. lutescens</i> Miyabe & Kudo						
<i>Caryophyllaceae</i>						
<i>Dianthus chinensis</i> LINNE	Herba	MeOH	0.90(I)	0.90(I)	0.91(I)	
<i>Berberidaceae.</i>						
<i>Berberis koreana</i> PALIBIN.	Cortex	MeOH	0.43(F)	0.38(F)	0.78(F)	Berberine, etc. ⁷
<i>Papaveraceae</i>						
<i>Chelidonium majus</i> L.	Herba	H ₂ O	0.25(F)	0.22(F)	0.50(F)	
		MeOH	0.21(F)	0.21(I.F)	0.45(F)	Protopine etc. ⁸
			0.88(I.C)		0.83(I.C)	
		Et ₂ O	0.29(I.F)	0.16(I.F)	0.60(I.F)	
			0.94(C.I.F)	0.94(C.I.F)	0.71(F)	
					0.87C.(I.F)	
					0.97(I.F)	
<i>Cruciferae</i>						
<i>Raphanus sativus</i> LINNE	Radix	MeOH	0.95(F)	0.96(F)	0.81(F)	
<i>Leguminosae</i>						
<i>Euchresta japonica</i> BENTHAM	Radix	H ₂ O	0.88(I.C)	0.34(C.F)	0.29(C.I)	Martrine etc. ⁹
				0.74(C.F)	0.43(C.I)	
					0.52(C.I)	
		MeOH	0.93(I.C)	0.34(I.C)	0.29(C.I)	
				0.57(I.C)	0.43(C.I)	
					0.52(C.I)	
<i>Rutaceae</i>						
<i>Citrus Aurantium</i> LINNE	Cortex	MeOH	0.41(F)	0.60(F)	0.66(F)	
<i>Subsp. nobilis</i> MAKINO.			0.75(I.F)	0.88(I.F)	0.85(I)	
<i>Umbelliferae</i>						
<i>Aralia cordata</i> THUMBERG	Radix	MeOH	0.92(F.I)	0.94(I.F)	0.95(I.F)	
		Et ₂ O	0.97(I.F)	0.97(I.F)	0.94(I.F)	
<i>Carduaceae</i>						
<i>Xanthium japonicum</i> WIDDER	Fructus	MeOH	0.23(F)	0.12(F)	0.49(F)	
				0.93(F)		

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