

Phytochemical Survey of Herb Drugs V*

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禹麟根·都象學：漢藥의 植物化學的調查 (V)

漢藥 40種에 대하여 植物化學的 調查를 하고 그中 알카로이드의
存在를 Thin layer chromatography 로 檢出한 結果를 報告한다.

As the projects of this institute, 205 species of plants which are used currently as herb drugs in Korea were screened on the presence of alkaloids, phenolic compounds, flavonoids, chalcones, lactones, glycosides, carbohydrates, terpenoids, steroids, proteins, polypeptides, saponins, and organic acids¹⁻⁴⁾, and the most reliable presence of alkaloids was detected by paper chromatography⁵⁻⁸⁾. In this paper, presence of alkaloids detected by thin layer chromatography is added after screening of 40 species.

EXPERIMENTAL AND RESULT

Plant material pharmacognostically identified was extracted with H₂O, EtOH and Et₂O at room temperature respectively.

The solvent was removed from the extracts using vacuum when necessary. 10 to 20 g. of each extract was dissolved in 10% HCl solution and extracted with Et₂O. The H₂O layer was made alkaline and extracted with CHCl₃.

The CHCl₃ layer was evaporated and the residue was dissolved in dilute HCl solution to be subjected to alkaloid test by Meyer's reagent.

Thin layer chromatography(silica gel G. acc. to stahl (Merk's)) was carried out on the fraction which responded to the alkaloid reaction. R_f values, developers, color reagents and conditions are presented in Table I.

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Table I.—The RF values detected. The ascending method was used with silica gel G. (Merk's) for thin layer chromatography at room temp. Solvent mixture: BHH, BuOH-H₂O AcOH(5:4:1); AB, 0.1% aqueous ammonia BuOH(1:1); BH, BuOH-2% HCl(96:20). Detecting reagents: D, Drogendorff's reagent; PI, 2% platinum chloride iodine solution; I, -iodine; N, Ninhydrin reagent; F, Fluorescence.

Plant Name	Part Used	Extract	Rf			Alkaloid Previously reported
			AB	BH	BHH	
Chenopodiaceae						
<i>Kochia scoparia</i> Schrader	Semen	EtOH	0.10(F)	0.07(F)		
Amarantaceae						
<i>Celosia argentea</i> L.	Semen	"	0.21(F)	0.29(F)	0.41(F)	
Malaceae						
<i>Cydonia sinensis</i> Thouin	Fructus	Et ₂ O	0.35(F)	0.35(F)	0.35(F)	
Rutaceae						
<i>Phellodendron Insulare</i> Nakai	Cortex	H ₂ O	0.05(F,I)	0.11(F)	0.27(F,D)	Berberin ^{9,10} , palmetin ¹¹ ,
			0.16(F)	0.19(D)	0.20(F,D)	
			0.12(D)	0.21(F)	0.11(I)	
		0.05(D)	0.23(D)	0.21(I)		
		EtOH	0.54(F,I)	0.22(F,D)	0.26(F,D)	
			0.06(F,I)	0.10(F,D)		
Et ₂ O	0.08(F,I)	0.35(F,N)	0.14(F,I)			
		0.42(F,I)	0.46(F,I) 0.69(F,I)			
Simarubaceae						
<i>Picrasma ailanthoides</i> Planch	Lignum	EtOH	0.30(I)			
		Et ₂ O	0.31(F)	0.34(F)	0.40(F)	
Daphniphyllaceae						
<i>Daphniphyllum macropodium</i> Miquel	Cortex	H ₂ O	0.27(F,N)			Dephnimacrin ¹²
		EtOH	0.07(F,D)	0.19(F,D)	0.30(D)	
			0.20(F)		0.39(D) 0.84(F,I,D)	
Styracaceae						
<i>Styrax japonica</i> Sieb. & Zucc.	Fructus	H ₂ O	0.08(F)			
		EtOH	0.77(F)	0.07(F,I)		
Oleaceae						
<i>Forsythia koreana</i> Nakai	Fructus	EtOH	0.11(F,I)		0.25(F,I)	
Solanaceae						
<i>Datura tatura</i> L.	Folium	H ₂ O	0.14(F,I)	0.40(F,N,D)	0.06(D)	Hyoscyamine, ¹³ Atropine, Scroporamine,
			0.50(D)		0.25(F,I)	
			EtOH	0.17(F)	0.30(F,I,D)	
		Et ₂ O	0.10(D)	0.17(F)	0.21(D)	
			0.18(F)		0.88(D)	
		EtOH	0.10(D)		0.54(F)	
0.15(F,I)			0.67(I)			
<i>Physalis Alkengi</i> L.	Fructus	EtOH				
Valerianaceae						
<i>Patrinia Scabiosaefolia</i> Fisher	Radix	EtOH	0.10(D)		0.03(D)	
			0.05(F)		0.34(F,D)	
<i>Valeriana officinalis</i> L. var. <i>latifolia</i> Miquel	Radix	EtOH	0.31(I)	0.21(I)		

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