

Phytochemical Survey of Herb Drugs (I)*

by

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禹麟根·金喜淑：漢藥의 植物化學的 調査 (I)

漢藥 50 種에 對하여 植物化學的 調査를 하고 그 中 알카로이드
의 存在를 檢出한 結果를 報告한다.

One of projects of this institute is phytochemical survey of the herb drugs in Korea for further study.

A hundred and fifteen 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^{1,2)}, and the most reliable presence of alkaloids was detected by paper chromatography.^{3,4)} In this paper, presence of alkaloids is also tabulated after screening other 50 species.

EXPERIMENTAL

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 alcohol to be subjected to alkaloid test by Meyer's reagent.

Paper chromatography (ascending) was carried out on the fraction which responded to the alkaloid reaction.

MATERIALS AND METHODS

Paper: Whatman No. 1 (3×50 cm)

Developer:

Butanol-Water-Acetic Acid (5 : 4 : 1).....(BHH)

0.1% Ammonia Water-Butanol(AB)

Butanol-2% HCl (96 : 20)(BH)

Color reagents:

Fluorescence(F)

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| | |
|--|------|
| Chargeff's reagent | (C) |
| 2 % Platinum chloride iodine solution..... | (PI) |
| Iodine | (I) |
| Ninhydrin reagent | (N) |

Condition : 15° to 20°.

TABLE I.—The Rf. Values

| Plant | Part Used | Extract | AB | Rf. BH | BHH | Alkaloid previously reported |
|---|-----------|-------------------|----------------------------------|--|--|--------------------------------------|
| Gramineae | | | | | | |
| Hordeum vulgare L. | Seed | MeOH | 0.807(I) 0.827(F) | 0.843(F) | 0.666(I) 0.728(I) 0.931(F) | Xanthine Hordenine ⁽⁵⁾ |
| Iridaceae | | | | | | |
| Belamcanda chinensis Leman | Rhizome | MeOH | 0.849(I) | 0.850(I) | 0.897(I) | |
| Ranunculaceae | | | | | | |
| Aconitum koreanum R. Raymond | Rhizome | H ₂ O | 0.550(I,C) | 0.328(I,C) 0.437(I,C) 0.562(I,C) | 0.588(I,C) 0.657(I) 0.736(I,C) | |
| | | MeOH | 0.576(I,C) 0.867(I,C) | 0.290(C) 0.450(I,C) 0.553(I,C) | 0.581(I,C,N) 0.668(I,C,N) 0.739(I,C,N) | |
| | | Et ₂ O | | 0.321(I) 0.505(I) | 0.549(I,C) 0.671(I,C) 0.792(I,C) | |
| Ranunculaceae | | | | | | |
| Cimicifuga heracleifolia Komarov | Rhizome | MeOH | 0.809(F) | 0.883(F,I) | 0.892(I,F) | |
| Rosaceae | | | | | | |
| Prunus Mume Siebold & Zuccarini | Fructus | MeOH | 0.919(I) 0.866(F) | 0.843(F) 0.700(I) | 0.869(I) 0.931(F) | |
| Leguminosae | | | | | | |
| Albizia Julibrissin Durazzini | Cortex | H ₂ O | 0.737(I) | 0.865(I) | 0.865(I) | |
| Rutaceae | | | | | | |
| Fagara mandshurica | Fruit | MeOH | 0.921(F,I,C) | 0.907(F,I,C) | 0.916(F,I,C) | |
| | | Et ₂ O | 0.912(F,I,C) | 0.924(F,I,C) | 0.923(F,C) | |
| Rutaceae | | | | | | |
| Poncirus trifoliata (Linne) | Fruit | MeOH | 0.806(F,I) 0.875(F,I) | 0.728(F) 0.830(F,I) | 0.868(F,I) | |
| Rafinesque | | Et ₂ O | 0.340(F) 0.512(F) 0.846(I) | 0.762(F) 0.855(F,I) | 0.861(F,I) 0.913(F,I) | |
| Araliaceae | | | | | | |
| Kalopanax pictum (Thunb.) Nakai var. typicum Nakai | Cortex | H ₂ O | 0.644(I) | 0.704(I) | 0.896(F) 0.800(I) | |
| | | MeOH | 0.655(I) | 0.926(F) 0.694(I) | 0.916(F) 0.794(I) | |

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