Pharmacognostical Studies of Plantaginis Herba (8) Morphological and Histological Studies on the Roots of Plantago spp. from China.

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The roots of 17 plants of the Plantago genus from China, i.e. P. asiatica, P. hostifolia, P. major, P. jeholensis, P. himalaica, P. erosa, P. depressa, P. depressa var. montana, P. comschatica, P. maritima var. salsa, P. virginica, P. lessingii, P. minuta, P. lanceolata, P. media, P. aristata, P. indica, were studied histotaxonomically. We found that these species may be histologically distinguished from each other by the characteristics of the structures of the pith and cork-layer, and by the presence or absence of the endodermal cells having some daughter cells. These results will be useful for the identification of the plant origin of Plantaginis Herba.


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Fruit of Forsythia spp. contain four phenylethanoid glycoside (FOR), suspesaside (SUS), acteoside (ACT) and β-hidroxyacteoside (β-hydroxyACT). In this paper, these phenylethanoid glycoside contents of the fruits of eight species of Forsythia were determined by HPLC. Then, by using this method the fruits of the three original plants of Forsythiae Fructus listed in JP XII, were analyzed. Forsythia koreana fruits contained FOR, SUS, ACT and β-hydroxyACT. Young F. suspensa fruits contained FOR, SUS and ACT, whereas mature ones contained SUS, a decreased amount of FOR and no ACT. F. viridissima fruits contained neither FOR nor SUS. These results may be useful for the identification of the origins of commercial samples of the crude drug and of its dried extracts.

Absence of mutagenic action of 5β-cholan-24-oic acid derivatives in the bacterial fluctuation and standard Ames tests.

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Published dada on the mutagenicity of 3 bile acids in the bacterial fluctuation test are conflicting. Eleven 5β-cholanoic acids including 2 of the bile acids were assayed for mutagenicity in S. typhimurium TA98 and TA100 in the fluctuation tests. In any of these bile acids, there were no statistically significant increases in mutagenicity compared with appropriate controls. Similarly, none of these compounds showed positive mutagenicity in the standard Ames test. Our results support the claim that 3 bile acids are not mutagenic, and indicate that the initiation activity of 5β-cholanoic acids is not demonstrable with a short-term assay using Salmonella strains.