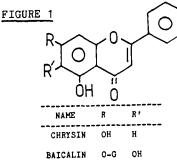
ANTI-STEROIDOGENIC PROPERTIES OF <u>SCUTELLARIA</u> AND <u>PUERARIA</u> PLANT EXTRACTS

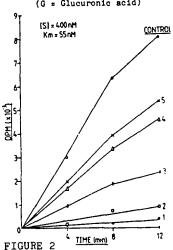
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The use of aqueous decoctions of species of <u>Scutellaria</u> (Labiatae) and <u>Pueraria</u> (Leguminosae) in Chinese herbal medicine is well documented, principally for the treatment of gastro-intestinal complaints. However, traditional sources also claim that an extract of <u>S. baicalensis</u> Georgi is used in breast cancer therapy



BAICALIN O-G OH

(G = Glucuronic scid)



(Porter Smith et al, 1973). A new medicinal approach to the treatment of breast cancer involves inhibition of oestrogen biosynthesis, and а recent report has indicated that several natural and synthetic flavonoid compounds are able to inhibit the enzyme oestrogen synthetase (aromatase), the flavone chrysin being a potent, competitive inhibitor (Kellis and Vickery, 1984). The structures of some flavonoids are shown in figure 1. Since Scutellaria and Pueraria flavonoid spp. contain several isoflavonoid compounds, respectively, we have studied the ability of extracts of these plants to inhibit the aromatisation reaction, utilizing an in vitro screening system (Daly et al, 1983). An aqueous decoction, using a typical dose of 3 ch'ien (9.36g.) of commercially available \underline{S} . $\underline{macrantha}$ (syn. S. baicalensis) root (3; Wah Loong Co. Ltd., Hong Kong) was prepared as directed by a Chinese herbal practitioner (C.S.Leung, personal communication) and used directly in The major flavonoid the aromatase assay. glycoside component of the root, baicalin, and an ethanol-soluble fraction containing flavonoid aglycones from S. macrantha root (4) were also tested in comparison with 4-hydroxyandrostenedione (1) [a steroidal aromatase inhibitor at present undergoing clinical trial], chrysin (2) and rutin (5)(Sigma, Poole, U.K.). The results are shown in figure 2. (3) showed marked inhibition,

but this was not due to the major flavonoid glycoside, baicalin, which was inactive. (4) showed a lower activity, similar to (5), while an extract of Pueraria root, containing oestrogenic isoflavones, neither inhibited nor promoted aromatase. These results indicate a sound pharmacological basis for a traditionally used herbal medicine.

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