The Isolation of Biologically Activity Compound by Droplet Countercurrent Chromatography (DCCC)

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Summary

A Chemical investigation of biologically active compounds from the root of Rheum patmatum L. (Polygonaceae), an Indonesian Jamu plant known as "Kelembak", has led to the isolation and identification of two stilbene glycosides, 4'- O-methylpiceid (1) and Rhapontin (2). Both exhibited moderate α-glycosidase inhibitory activity. These bioactive glycosides were efficiently isolated by using droplet counter-current chromatography (Dccc).

In addition, a new cytotoxic anthraquinone glucoside, Pulmatin (3), 1,8-dihydroxy-3-methyl-anthraquinone-l- O-β-D-glucodside, and its congeners, Chrysophanein (4) and Physcionin (5), have been isolated as minor components from the root of Rheum palmatum L. (Polygonaceae) by recycling high performance liquid chromatography (R-HPLC). These anthraquinone glycosides exhibited moderate cytotoxic activity against several types of carcinoma cells.

A new quassinoid, Chaparramarin (6) has been isolated from the bark of Castela tortuosa and identified as an insect growth inhibitor against the lepidopteran pest insect, Heliothis virescens (tobacco budworm).

Their structures were established by means of spectroscopic methods.