

New Flavonoid Glycosides from *Linaria japonica*

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New Flavonoid Glycosides from *Linaria japonica*

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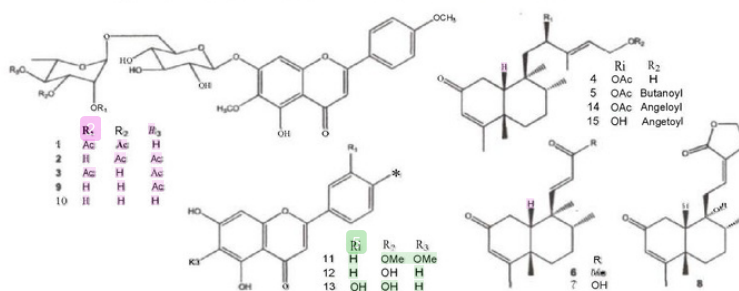
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[Objective] *Linaria japonica* (우>̄>, #8C1, sil란초, Scrophulariaceae) is a perennial herb which grows on the sandy place along seashores in Japan with elliptic and fleshy leaves. The whole plant extract is used as a folk medicine due to its diuretic and purgative pharmacological activities. In our previous phytochemical investigations on this plant, several new flavonoid, iridoid and megastigmane glycosides were isolated from 1-butanol fraction⁰. In this study, further phytochemical investigation was performed on non-polar fraction, i.e. mixture of hexane-ethyl acetate soluble fraction of this plant.

[Methods] Whole plants of *Linaria japonica* were collected in Tottori prefecture. The air-dried plants were extracted with methanol two times. The obtained methanol extract was concentrated and suspended in water, then partitioned with n-hexane, ethyl acetate, and 1-butanol.

[Results] On investigation of the mixture of hexane-ethyl acetate layer of the plant, three new flavonoid glycosides (1-3) and five new diterpenes (4-8)² along with five known flavonoid glycosides (9-10), three known flavonoids (11-13) and two known diterpenes (14, 15) were isolated by various chromatographic techniques such as silica gel, ODS column chromatography and HPLC. The structures of these compounds were determined as follows by spectrometric analysis (UV, IR, ID- and 2D-NMR, and HR-ESI MS).



1) Otsuka H, *Phytochemistry*, 39(5), 1111-14(1995) and references cited therein.

2) Retno W, *et al.* The 134th Annual Meeting of the Pharmaceutical Society of Japan (2014), 28L-am05S

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