

센달나무(*Machilus japonica*)의 줄기로부터 flavonoid의 분리 및 동정
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Flavonoids from the Stem of *Machilus japonica*

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Objectives

Machilus japonica is an evergreen tree belongs to the Family Lauraceae, which grows about 10 m-high, has narrow oval leaves and green-yellow-colored flowers. Some researches such as growth inhibition activity against the larvae of *Spodoptera litura* and inhibition activity of matrix metalloproteinase-9 have been reported currently. In addition, a few chemical components, lignans and flavonoid glycosides, were isolated only from leaves of this plant. Therefore the authors carried out this study to find out the lead compounds from the stem part of *M. japonica* to manifest the activity. Dried and pulverized stem of *M. japonica* was extracted with 80% aqueous MeOH, and the concentrated extract was partitioned with EtOAc, *n*-BuOH and H₂O, successively. As a result of repeated silica gel and ODS column chromatographies on EtOAc fraction, six flavonoids were isolated. With the analysis of spectroscopic data based on NMR and MS, these compounds were identified as These compounds were identified by analysis of spectroscopic data based on NMR and MS.

Materials and Methods

○ Materials

The dried stem parts of *Machilus japonica* were supplied by GFC Co., Ltd, Korea. EI-MS data was recorded on a JEOL JMSAX-505-WA. ¹H-NMR (400 MHz) and ¹³C-NMR (100 MHz) spectra were recorded on a Varian Unity Inova AS-400 FT-NMR spectrometer.

○ Methods

Dried stem of *M. japonica* was extracted with 80% aqueous MeOH tree times for 24 hrs. The concentrated extract was partitioned with EtOAc, *n*-BuOH and H₂O, successively. From the EtOAc fraction, six compounds were isolated through repeated silica gel and ODS column chromatographies.

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Results

From the result of physico-chemical data including NMR, mass spectrometry, the chemical structures of the compounds were determined to be flavonoids. This is the first study to isolate the compounds from *M. japonica*

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The stem of *Machilus japonica* (9 kg)

