P-115

딸기(*Fragaria anananssa*) 꽃받침으로부터 분리된 euscaphic acid의 gas chromatography를 이용한 정량분석

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The Quantitative Analysis of Euscaphic acid in Strawberry Calyx by Gas Chromatography

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Objectives

Strawberry (*Fragaria ananassa* Duch.) is one of the very popular fruits belonging to the rosaceae family. *Fragaria ananassa* is well known to have antioxidant activity because they have a lot of anthocyanins. In our preliminary experiment, the calyx of *Fragaria ananassa* also showed high antioxidant activity which is almost same as that of green tea. This study was conducted to search and to measure a index component of *Fragaria ananassa* calyx..

Materials and Methods

○ Materials

The calyx of *F. ananassa* were offered by GFC Co. (Suwon). Gas chromatography spectrum was recorded on Shimadzu GC-14B (Tokyo, Japan). Samples were injected into a DB-5 column (30 m × 0.32 mm ID × 0.25 μm, J&W, Folsom, California, USA).

○ Methods

The calyxies of *F. ananassa* (8.5 kg) were extracted with 80% aqueous MeOH and the concentrated extract was partitioned with EtOAc, *n*-BuOH, and H_2O, successively. Silica gel and octadecyl silica gel (ODS) column chromatographies were used for the isolation of the EtOAc fraction led to isolation of euscaphic acid. The application of gas chromatography spectrometry (GC) was done for the quantitative analysis of euscaphic acid in the calyx of strawberry. The EtOAc fraction of strawberry calyx was dissolved in pyridine and determined by using TMS derivatives.

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Results

From the result of GC data, euscaphic acid is found as the major component of EtOAc fraction of strawberry calyx. The calibration curve is obtained as y=431,240.2667x-47,152.2000 (R^2=0.9993) which can we applied as standard for quality control and quantification of euscaphic acid. The content of euscaphic acid in the calyx of strawberry was determined as 5.4223 mg/g (0.5422 %).

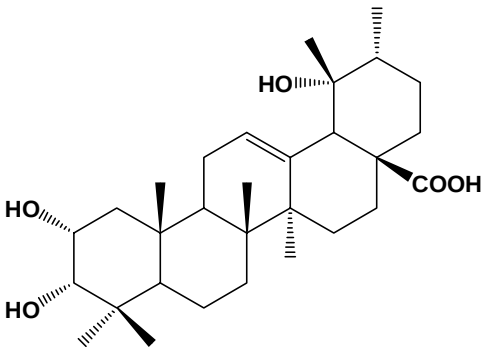

Fig.1. The structures of euscaphic acid isolated from the calyx of *Fragaria ananassa.*

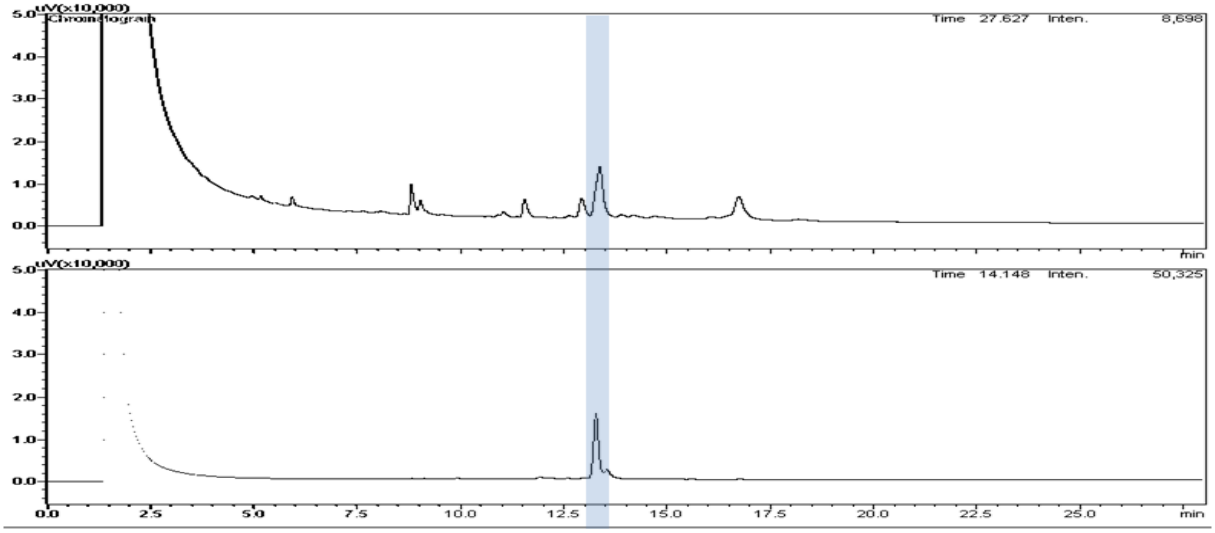

Fig.2. GC chromatogram of EtOAc fraction of *Fragaria ananassa* calyx and euscaphic acid.