

고추(*Capsicum annuum*)로부터 신규 페놀 화합물의 분리 및 동정  
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Two new phenolic glycosides from the Fruits of *Capsicum annuum* L.  
(Hot Pepper)

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### Objectives

*Capsicum annuum*, the genus *Capsicum* in the family of Solanaceae, is distributed mainly in tropical America, Korea, and India. Among the most usually cultivated five species such as *C. frutescens*, *C. chinense*, *C. pubescens*, *C. baccatum*, and *C. annuum*, the last one is cultivated commercially in Korea. *C. annuum* is used by Korean to give spice to Korean cuisine, Kim-Chi and Go-Chu-Jang, and so on. For that reason, it is one of the most important vegetables for both farmer and consumer in Korea. Also it is reported that *C. annuum* has several biological effects such as anti-oxidant, anti-biotic, anti-inflammatory and cytotoxic. Though many researches have been accomplished in the field of thremmatology, breeding and molecular biology, there is few study on metabolites of *C. annuum*. We, therefore, initiated this study to isolate and identify other secondary metabolites from the fruit of *C. annuum*.

### Materials and Methods

#### ○ Materials

The fruits of *Capsicumannuum*L. were purchased at a market in EumSeong, Korea, in October 2006, and positively identified by Prof. Dae-Keun Kim, Woosuk University, Jeonju, Korea. A voucher specimen (KHU061027) was deposited at the Laboratory of Natural Products Chemistry, Kyung Hee University, Yongin, Korea.. EI-MS was recorded On a JEOL JMSAX-505-WA. <sup>1</sup>H-NMR (400 MHz) and <sup>13</sup>C-NMR (100 MHz) and 2D-NMR spectra were recorded on a Varian Unity Inova AS-400 FT-NMR spectrometer (Caloformia, USA).

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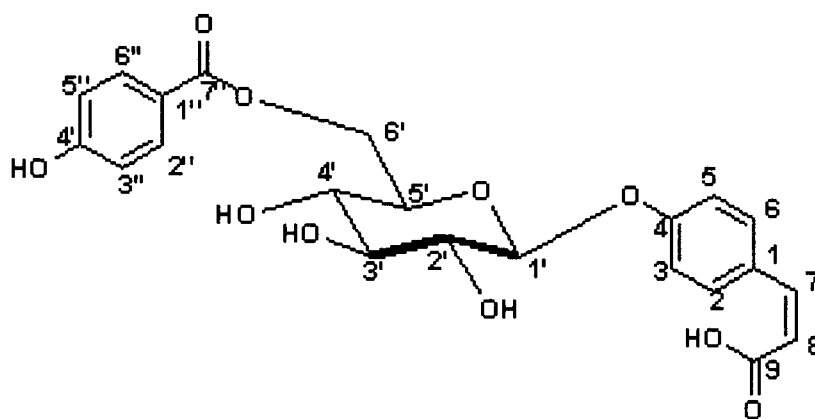
## ○ Methods

The dried and powdered hot peppers were extracted with 80% aqueous MeOH, and the concentrated extract was partitioned with EtOAc, *n*-BuOH and H<sub>2</sub>O, successively. From the EtOAc fraction, two new phenolic glycosides were isolated through the repeated silica gel, ODS and Sephadex LH-20 column chromatographies.

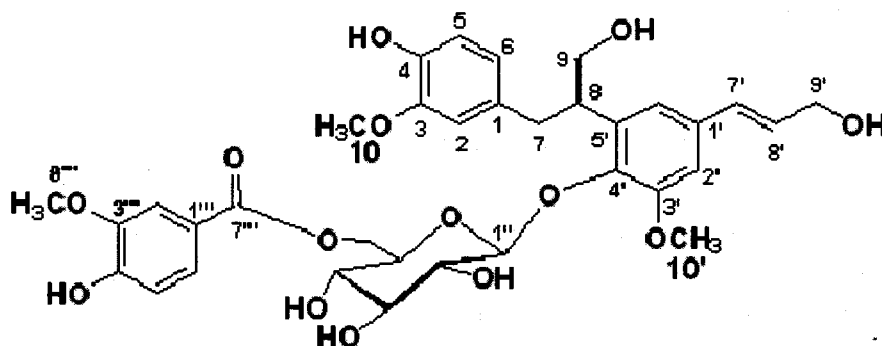
## Results

according to the results of physico-chemical data including NMR, MS and IR, the chemical structures of the compounds were determined 4-*O*-(6-*O*-*p*-hydroxybenzoyl)- $\beta$ -D-glucopyranosyl)-*cis*-*p*-coumaric acid, and Vanilloylicarisiide E<sub>5</sub>.

Fig. 1. Compounds from *Capsicum annuum*.



compound 1



compound 2