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A New Glycoside from *Erigeron Breviscapus*

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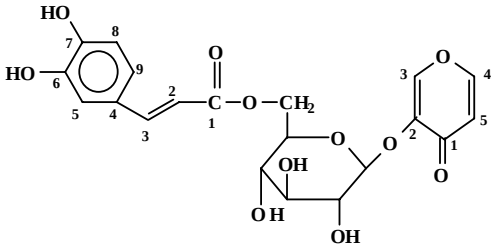
Abstract: Erigeside I was isolated from *Erigeron breviscapus.* The structure elucidation and ^{1}H, ^{13}C NMR assignments were achieved by spectroscopic method.

Keywords: *Erigeron breviscapus;* compositae; erigeside I.



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Erigeron breviscapus (Van) Hand-Mazz is a perennial herb, which grows abundantly in Yunnan and Guangxi provinces of China. Many erigerosides have been found previously in this plant[1-2]. We report here the isolation and structural elucidation of a new constituent erigeside I **1** from the butanol-soluble fraction of E. breviscapus.

The EtOH extract of the plant was partitioned with petroleum ether, EtOAc and n-BuOH. The n-BuOH fraction was further fractionated by silica gel chromatography and HPLC to afford **1**. **1**, mp. 148~149 °C, FAB-MS m/z: 436 $[M]^+$, 475 $[M+K]^+$. EI-MS m/z: 437 $[M+1]^+$, was isolated as a yellow amorphous powder, suggested chemical composition to be $C_{20}H_{20}O_{11}$. Its IR spectrum showed the presence of hydroxyl groups (3100~3600cm^{-1}) and two carbonyl groups (1730, 1690cm^{-1}). The ^{13}CNMR spectrum of **1** indicated the presence of a glucose moiety and a 14-carbon moiety. The DEPT spectrum of the 14-carbon moiety revealed eight tertiary carbons and six quaternary carbons. The ^{1}HNMR spectrum of this moiety contained eight protons and two phenolic protons. The signals at δ 7.45 ppm, 7.03 ppm, 6.76 ppm, 6.98 ppm, 6.23 ppm, indicated that had a caffeoyl moiety[3], while signals at δ 8.15 ppm, 8.40 ppm, 6.37 ppm, gave the evidence of a γ-pyranone moiety.[1] (See **Table 1)**.

Signals of the ^{13}CNMR and the ^{1}HNMR suggested the presence of β-D-glucose moiety[4]. The COLOC spectrum showed that the signal of 166.32 ppm (carbonyl of

caffeoyl) was correlated with the signal at 4.13 ppm (6-H of glucose). Thus, the caffeoyl was connected at C-6 and the γ-pyranone at C-1 of the glucose. In the ^{1}HNMR, the signal at δ 8.15 ppm was a singlet while those at δ 8.40 ppm and 6.37 ppm were doublets, thus we deduced that the glucose was connected to 2-C of γ-pyranone. **1** was then assigned as 1-(2'-γ-pyranone)-6-caffeoyl-β-D-pyranglucose.

Table 1. NMR data of Erigeside I (DMSO-d_6)

	H	δ	J_{Hz}		C	δ
Caffeoyl-	2	6.23(d)	18	Caffeoyl-	1	166.32s
	3	7.45(d)	18		2	113.73d
	5	7.03(d)	0.6		3	145.25d
	8	6.76(d)	7.2		4	125.47s
	9	6.98(d)	7.2		5	114.80d
γ-pyranone-	3	8.15(s)			6	145.70s
	4	8.40(d)	6.7		7	148.43d
	5	6.37(d)	6.7		8	115.79d
β-glucose-	1	4.87(d)	7.6		9	121.36d
	2	3.22(m)		γ-pyranone-	1	172.35s
	3	3.60(m)			2	145.56s
	4	3.37(m)			3	144.12d
	5	3.37(m)			4	155.69d
	6	4.13(m), 4.40(d)			5	116.18d
				β-glucose-	1'	100.08d
					2'	73.12d
					3'	74.02d
					4'	69.77d
					5'	73.31d
					6'	63.21t

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