

A New Sesquiterpene Lactones Glucoside from *Notoseris psilolepis*

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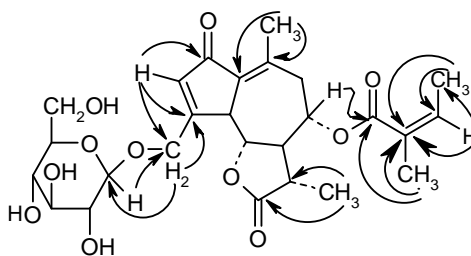
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Abstract: A new sesquiterpene lactone glucoside, notoserolide C (**1**), was isolated from the whole plant of *Notoseris psilolepis* Shih. By means of spectral analysis including MS, NMR (¹H NMR, ¹³C NMR, ¹H-¹H COSY, HMQC, HMBC) and X-ray diffraction, the structure of notoserolide C was established as cichorioside B angelate.

Keywords: *Notoseris psilolepis*, asteraceae, notoserolide C.

As a part of an investigation on plant of the genus *Notoseris* (Asteraceae), an endemic genus of seed plants of China¹, we studied the chemical constituents of *N. psilolepis* Shih. A new sesquiterpene lactone glucoside, named notoserolide C (**1**) was isolated from the methanolic extract of the whole plant of *N. psilolepis* by repeated column chromatography (MCI GEL, normal and reversed phase silica gel). This compound showed antibacterial activity against *Bacillus cereus*.

Figure 1. The key HMBC correlations for **1**



doublet at δ 1.19 (3H, d, $J = 7$ Hz), a vinyl methyl signal at δ 2.44 (3H, s), an olefinic proton signal at δ 6.61 (1H, br s) and angeloyl signals at δ 6.23 (1H, q, $J = 7$ Hz), 2.01 (3H, d, $J = 7$ Hz) and 1.92 (3H, s). The ^{13}C -NMR spectrum was similar to that of cichorioside B² except for five signals due to the angeloyl moiety³. The long-range heteronuclear correlations (**Figure 1**) between H-15 and the anomeric carbon of the glucose, between H-8 and carbonyl carbon of the ester moiety revealed that the glucose moiety is located at C-15 and angeloyl at C-8. Analysis of ^1H - ^1H COSY, HMQC and HMBC spectra allowed proton and carbon signals of **1** to be assigned as **Table 1**. Accordingly, **1** can be represented as cichorioside B angelate. The structure was unambiguously confirmed by X-ray analysis³.

Table 1. ^1H -(500 MHz) and ^{13}C -(125 MHz) NMR spectral data for **1** (CD_3OD)

C	δ_{C}	δ_{H}	C	δ_{C}	δ_{H}
1	134.0(s)		ester moiety		
2	197.1(s)		16	167.8(s)	
3	134.9(d)	6.61, br s	17	128.5(s)	
4	171.7(s)		18	140.8(d)	6.23, q, 7Hz
5	49.7(d)	3.87, d, 8Hz	19	16.1(q)	2.01, d, 7Hz
6	82.2(d)	3.84, m	20	20.7(q)	1.92, s
7	59.4(d)	2.55, m	sugar moiety		
8	71.5(d)	5.00, m	1'	104.1(d)	4.40, d, 8Hz
9	45.6(t)	2.90, m	2'	75.1(d)	
10	148.6(s)		3'	78.0(d)	
11	41.7(d)	2.67, m	4'	71.5(d)	
12	179.1(s)		5'	78.0(d)	
13	15.2(q)	1.19, d, 7Hz	6'	62.7(t)	3.67, dd, 11, 7Hz
14	21.5(q)	2.44, s			3.88, d, 11Hz
15	69.6(t)	4.80, 4.87, d, 17Hz			

Acknowledgments

This work was financially supported by the Special Project of Biological Science and Technology of the Chinese Academy of Sciences (STZ-97-3-08).

References and Notes

1. T. S. Ying, Y. L. Zhang, D. E. Boufford, *The Endemic Genera of Seed Plants of China*, Science press, Beijing **1993**, 194.
2. M. Seto, T. Miyase, K. Umehara, A. Ueno, Y. Hirano, N. Otani. *Chem Pharm Bull.*, **1988**. 36, 2423
3. Crystallographic parameter of **1** have been deposited in the editorial office of CCL.

Received 8 May 2000