FLAVONOIDS FROM *Pegaeophyton scapiflorum*

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The genus *Pegaeophyton* (Brassicaceae) is represented by only one specie in China, mostly growing in the southwestern part of the country on mountains 3500 meters above sea level or higher [1]. *P. scapiflorum* Marq. Et. Shaw. is used in Tibetan folkloric medicine for the treatment of fever and food poisoning [2]. To the best of our knowledge, no scientific study on this plant has hitherto been reported.

The dried whole plants of *P. scapilorum* (8.0 kg) were collected in Shangrila, southwestern China, in September 2001, and extracted with 75% ethanol (20 L × 4) at room temperature for 20 days. The alcohol extract was evaporated in vacuum at 50°C. The condensed solution was diluted with water and successively treated with chloroform and *n*-butanol.

The chloroform extract (170 g) was subjected to silica gel column chromatography. The column was continuously eluted with a methanol gradient in chloroform and fractions (**1–9**) were collected. Fraction **7** was purified by polyamide column chromatography and eluted with chloroform–methanol (40:1→0:1) to yield compounds **1** (3.6 g) and **2** (1.2 g).

The *n*-butanol extract (100 g) was purified by silica gel column chromatography and eluted with a methanol gradient in chloroform to afford fractions (**1–6**). Fraction **3** was chromatographed over a polyamide column and eluted with chloroform–methanol–water (8:1:0.1→1:1:0.2) to isolate and purify compounds **3** (130 mg), **4** (200 mg), and **5** (85 mg). These compounds were identified using UV, IR, MS, and NMR spectra and by comparison with reported spectral data in the literature.

Apigenin (1), $C_{15}H_{10}O_5$, mp 338–340°C. UV spectrum (MeOH, λ_{max}, nm): 268, 335. Mass spectrum (EI, 70 eV, *m/z*): 270 $[M]^+$, 242, 153, 121, 69. ^{1}H NMR (DMSO-d_6, 300 MHz, δ, ppm, J/Hz): 12.88 (1H, 5-OH), 7.94 (2H, d, J = 9, H-2′, 6′), 6.98 (2H, d, J = 9, H-3′, 5′), 6.74 (1H, s, H-3), 6.54 (1H, d, J = 2, H-8), 6.25 (1H, d, J = 2, H-6) [3].

Tricin (2), $C_{17}H_{14}O_7$, mp 291–292°C. UV spectrum (MeOH, λ_{max}, nm): 243, 266, 352. Nagative FAB-MS spectrum (70 eV): *m/z* 329 $[M-1]^-$, 314, 300, 286, 259, 167, 151, 135, 109, 69. ^{1}H NMR (DMSO-d_6, 300 MHz, δ, ppm, J/Hz): 12.64 (1H, 5-OH), 7.53 (2H, s, H-2′, 6′), 6.88 (1H, s, H-3), 6.52 (1H, d, J = 2.0, H-8), 6.23 (1H, d, J = 2.0, H-6), 3.94 (6H, s, OCH_3) [4].

Tricin-7-*O*-*β*-D-glucopyranoside (3), $C_{23}H_{24}O_{12}$, mp 240–241°C. UV spectrum (MeOH, λ_{max}, nm): 244, 266, 350. Nagative FAB-MS spectrum (70 eV): *m/z* 491 $[M-1]^-$, 329, 314, 300, 259, 167, 135, 109, 69. ^{1}H NMR (DMSO-d_6, 300 MHz, δ, ppm, J/Hz): 12.60 (1H, 5-OH), 7.52 (2H, s, H-2′, 6′), 6.85 (1H, s, H-3), 6.91 (1H, d, J = 1.9, H-8), 6.44 (1H, d, J = 1.9, H-6), 5.02 (1H, d, J = 7.4, glc-1), 3.90 (6H, s, OCH_3), 3.20–3.81 (m, glucose protons) [5].

Luteolin (4), $C_{15}H_{10}O_6$, mp 328–330°C. UV spectrum (MeOH, λ_{max}, nm): 260, 274, 356. Nagative FAB-MS spectrum (70 eV): *m/z* 285 $[M-1]^-$, 253, 223, 184, 165, 127. ^{1}H NMR (DMSO-d_6, 300 MHz, δ, ppm, J/Hz): 12.97 (1H, s, 5-OH), 7.42 (1H, dd, J = 8.1, J = 2.0, H-6′), 7.40 (1H, d, J = 2.0, H-2′), 6.87 (1H, d, J = 8.1, H-5′), 6.68 (1H, s, H-3), 6.43 (1H, s, H-8), 6.17 (1H, s, H-6) [6].

Kaempferol-3-*O*-*β*-D-glucopyranoside (5), $C_{21}H_{20}O_{11}$, mp 245–246°C. UV spectrum (MeOH, λ_{max}, nm): 268, 300, 312. Nagative FAB-MS spectrum (70 eV): *m/z* 447 $[M-1]^-$, 339, 297, 284, 255, 239, 223, 211, 188, 166, 119, 77. ^{1}H NMR (DMSO-d_6, 300 MHz, δ, ppm, J/Hz): 12.63 (1H, s, 5-OH), 8.05 (2H, dd, J = 12.0, J = 2.8, H-2′, 6′), 6.89 (2H, dd, J = 12.0, 2.8, H-3′,5′), 6.42 (1H, d, J = 2.0, H-8), 6.20 (1H, d, J = 2.0, H-6), 5.54 (1H, d, J = 7.6, glc-1), 3.35–3.80 (m, glucose protons) [7].

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