

## CHEMICAL CONSTITUENTS OF *Mentha longifolia* FROM XINJIANG<sup>a</sup>

Yusupjan Eli,<sup>1,2</sup> Abulimiti Yili,<sup>1</sup> Yongqiang Liu,<sup>1</sup>  
and Haji Akber Aisa<sup>1\*</sup>

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The genus *Mentha* belongs to the family Lamiaceae (Labiatae) consisting of about 25–30 species. Most of them were found in temperate regions of Eurasia, Australia, and South Africa. *Mentha longifolia* L. is a traditional Uighur medicinal plant used for the treatment of gastritis, headache, sinusitis, hemorrhoids, and dysmenorrhea, and as a carminative, and diuretic etc., [1].

*M. longifolia* was collected from Xinjiang Autonomous Region of P. R. China in June 2010 and identified by Prof. Nurby (College of Resource and Environment Sciences, Xinjiang University). In the present study we applied a series of separation and purification techniques, such as silica gel column chromatography, polyamide column chromatography, Sephadex LH-20 column chromatography, and recrystallization, yielding compounds **1–6**. Their structures were identified as acacetin (**1**), diosmetin (**2**), genkwanin (**3**), apigenin (**4**), acacetin 7-*O*-[6'''-*O*-acetylglucosyl(1'''→2'')]rhamnosyl (1'''→6'')glucoside (**5**), and daucosterol (**6**) by comparisons of spectral data (MS, <sup>1</sup>H and <sup>13</sup>C NMR) with the literature and direct comparisons with authentic standard substances.

Compounds **2** and **5** were isolated from the genus *Mentha* for the first time, and compounds **1** and **3** were isolated from *M. longifolia* for the first time.

**Acacetin (1).** C<sub>16</sub>H<sub>12</sub>O<sub>5</sub>, yellow powder, mp 259–260°C. ESI-MS *m/z* 283.5 [M – H]<sup>–</sup>. <sup>1</sup>H NMR (600 MHz, DMSO-*d*<sub>6</sub>) and <sup>13</sup>C NMR (150 MHz, DMSO-*d*<sub>6</sub>) spectral data of **1** were in good agreement with the literature [2].

**Diosmetin (2).** C<sub>16</sub>H<sub>12</sub>O<sub>6</sub>, orange powder, mp 256–258°C, ESI-MS *m/z* 299.4. <sup>1</sup>H NMR and <sup>13</sup>C NMR spectral data of **2** were in good agreement with the literature [3].

**Genkwanin (3).** C<sub>16</sub>H<sub>12</sub>O<sub>5</sub>, orange powder, mp 286–287°C. ESI-MS *m/z* 283.4 [M – H]<sup>–</sup>. <sup>1</sup>H NMR (600 MHz, DMSO-*d*<sub>6</sub>) and <sup>13</sup>C NMR (150 MHz, DMSO-*d*<sub>6</sub>) spectral data of **3** were in good agreement with the literature [4].

**Apigenin (4).** C<sub>15</sub>H<sub>10</sub>O<sub>5</sub>, orange powder, mp 345–350°C. ESI-MS *m/z* 269.1 [M – H]<sup>–</sup>. <sup>1</sup>H NMR (600 MHz, DMSO-*d*<sub>6</sub>) and <sup>13</sup>C NMR (150 MHz, DMSO-*d*<sub>6</sub>) spectral data of **4** were in good agreement with the literature [5].

**Acacetin 7-*O*-[6'''-*O*-Acetylglucosyl(1'''→2'')]rhamnosyl(1'''→6'')glucoside (5).** C<sub>36</sub>H<sub>44</sub>O<sub>20</sub>, white powder, ESI-MS *m/z* 795.9 [M – H]<sup>–</sup>. <sup>1</sup>H NMR (600 MHz, DMSO-*d*<sub>6</sub>) and <sup>13</sup>C NMR (150 MHz, DMSO-*d*<sub>6</sub>) spectral data of **5** were in good agreement with the literature [6].

**Daucosterol (6).** C<sub>35</sub>H<sub>60</sub>O<sub>6</sub>, white powder, mp 288–289°C. Compound **6** was identified by comparison of chromatographic (TLC, HPLC) behavior with authentic standard substances.

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1) Key Laboratory of Plant Resources and Chemistry in Arid Regions, Xinjiang Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, 830011, Urumqi, P. R. China, fax: (86991) 383 56 79, e-mail: haji@ms.xjb.ac.cn; 2) Graduate School of the Chinese Academy of Sciences, 100039, Beijing, P. R. China. Published in *Khimiya Prirodnykh Soedinenii*, No. 4, July–August, 2012, p. 611. Original article submitted March 5, 2012.

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