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Chemical Constituents of the Aerial Part of *Ligularia Narynensis*

Nurlybekova A.K.¹, Yang Ye², Abilov Zh.A.¹, Jenis J.^{1,2*}

¹Faculty of Chemistry and Chemical Technology, Al-Farabi Kazakh National University, Almaty, Kazakhstan

²Shanghai Institute of Materia Medica, Chinese Academy of Sciences, Shanghai, China
*e-mail: janarjenis@mail.ru, (the work supported by project 0118PK00458)

Ligularia is the genus of perennial herbs of the family Compositae, containing about 180 Eurasian species, 17 species grow in mountains of Kazakhstan [1]. More than 27 species in this genus have been used for a long time as folk remedies for their antibiotic, antiphlogistic, and antitumor activities [2]. Previous studies confirmed the presence of sesquiterpenes, triterpenes, sinapyl alcohol derivatives, lignans, alkaloids, and steroids in *Ligularia* [3]. In this work, the quantitative and qualitative analysis of phytochemical constituents of medicinal plant *Ligularia narynensis* from Kazakhstan have been made for the first time. Total bioactive components of *L. narynensis* such as organic acids (0.58 %), flavonoids (0.64 %) and together with moisture content (5.98 %), total ash (7.58 %), and extractives content (25.1 %) were determined. Eleven macro-micro elements from the ash of plant were identified, main contents of them were K (1308.25 µg/ml), Ca (1312.77 µg/ml), and Mg (231.18 µg/ml) by using method of multi-element atomic emission spectral analysis. In addition, twenty amino and eight fatty acids were analyzed from the plant. The results showed that major contents of amino acids were glutamate (2405 mg/100g), and aspartate (1182 mg/100g), as well as in fatty acids were oleic (38.6 %) and linoleic acids (32.2 %), respectively. The liposoluble constituent in aerial part of *L. narynensis* was analyzed by GC-MS method. Total forty three compounds were separated and their relative contents were determined by area normalization in which the major constituents were alpha.-Amyrin (22.31 %), gamma.-Sitosterol (9.17 %), 9,12,15-Octadecatrienoic acid, ethyl ester, (Z,Z,Z)- (8.94 %), beta.-Amyrin (8.93 %), and Phytol (7.21 %), respectively.

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