

**DETERMINATION OF THE ELEMENTAL AND AMINO ACID
COMPOSITION OF THE DIURETIC DRUG “EKUSTIM”**

L.I. Tursunova*; U.A. Khadjieva**

*Researcher Scholar,
Uzbek Chemical and Pharmaceutical Research Institute,
Tashkent, UZBEKISTAN

** Researcher Scholar,
Uzbek Chemical and Pharmaceutical Research Institute,
Tashkent, UZBEKISTAN

Email id: lazizaturunova88@mail.ru

DOI: 10.5958/2249-7137.2023.00030.7

ABSTRACT

The purpose of these studies is to determine the elemental and amino acid composition of the diuretic drug “Ekustim” dry extract obtained from a mixture of 8 medicinal plants: false amber grass, woolly willow grass, horsetail grass, creeping anchor grass, yarrow flowers, cucumber seeds, corn stigmas and licorice roots. Quantitative determination of macro - and microelements was carried out by inductively coupled plasma mass spectrometry (ICP-MS), and determination of amino acid composition by high-performance liquid chromatography (HPLC).

The data obtained indicate that of the detected trace elements, K, Mg, Ca, Fe, Na, P and AI are contained in the largest amount, which is essential when creating a diuretic drug, and the concentrations of heavy metals and arsenic in the analyzed preparation did not exceed the regulated limit according to the requirements of WHO and GF XIV.

KEYWORDS: *Dry Extract, Biologically Active Substances, Amino Acid Composition, Elemental Composition, HPLC, ICP-MS, Macro- And Microelements.*

REFERENCES

1. O.V.Tovchiga, T.S. Shtyrogl / Influence of medicinal plants on the excretory function of the kidneys, Experimental and Clinical Pharmacology, 2009, Volume 72, No. 3, P. 50-59.
 2. Larionova T. K. Immune status of the body and microelements / T. K. Larionova [et al.] // Successes of modern natural sciences. -2006. - No. 2. - S. 41.
 3. Serebryanskaya T. S. Comparative analysis of free amino acids in the collection of medicinal plants and its dry polyextract with neuroprotective action / T. S. Serebryanskaya [et al.] // Vestn. Buryat State University. - 2010. - No. 12. - S. 88–91.
 4. Stalnaya M. I. Study of the elemental composition of plants / M. I. Stalnaya // New technologies. - 2007. - No. 3. - S. 91–94.
 5. Aseeva T. A. Food plants in Tibetan medicine / T. A. Aseeva, Ts. A. Naydakova. -3rd ed., rev. and additional - Novosibirsk: Science. Sib. department, 1991. -129 p.
-

6. Batorova S. M. / Plants of Tibetan medicine: experience of pharmacognostic research / S. M. Batorova, G. P. Yakovlev, S. M. Nikolaev, Z. G. Sambueva. -Novosibirsk: Science, Sib. department, 1989. - 159 p. 3. Burkina N. A. Study of the amino acid composition of brown sphagnum / N. A. Burkina [et al.] // Chemistry of vegetable raw materials. - 2000. - No. 1. - S. 81–83.
7. Sapozhnikov S. P. / The role of biogeochemical factors in the development of regional pathology / S. P. Sapozhnikov, A. V. Golenkov // Trace elements in medicine. - 2001. - Vol. 2, issue. 4. -S. 114–116.
8. Azizov U.M., Khadzhieva U.A., Madzhitova D.U., Khudoiberdiev O.I. /Standardization of dry extract "Urostim" // Pharmaceutical Journal. - Tashkent, 2017. - No. 2, - S. 51-54.
9. Azizov U.M., Khadzhieva U.A., Madzhitova D.U., Khudoiberdiev O.I. /Creation and development of technology diuretic "Urostim" based on a combination of local medicinal plants // Pharmaceutical Journal. - Tashkent, 2017. - No. 3, - S. 98-102.
10. Azizov U.M., Khadzhieva U.A., Madzhitova D.U., Khudoiberdiev O.I. / Technology for obtaining capsules "Ekustim" // Pharmaceutical Journal. - Tashkent, 2017. - No. 4. -WITH. 58-62.
11. Hudoyberdiev O.I., Hadzhieva U.A., Madzhitova D.U., Azizov U.V. /Working out of the methods of quality control and standardization of the diuretic preparation of «Ekustim» capsules // Austrian Journal of Technical and Natural Sciences: 2018. №1-2. -P. 3 -7.
12. Khudoiberdiev O.I., Azizov U.M. / Obtaining a dry extract of St. John's wort - Hypericum perforatum L. and studying its diuretic activity // Pharmaceutical Bulletin of Uzbekistan. - Tashkent, 2018. - No. 3. - S. 47-50.
13. Khudoiberdiev O.I., Azizov U.M., Tulyaganov R.T. /Study of the specific diuretic activity and safety of the drug "Ekustim" // Infection, immunity and pharmacology. - Tashkent, 2018. - No. 5. -C 140-145.
14. Khudoiberdiev O.I., Azizov U.M. /Comparative study of the extraction method of a mixture of 8 medicinal plants to obtain the substance of the diuretic drug "Ekustim" // Pharmaceutical journal. - Tashkent, 2018. - No. 4. - S. 68-71.
15. Khudoiberdiev O.I., Khadzhieva U.A., Tursunova M.Kh., Azizov U.M. /Study of chronic toxicity of the drug "Ekustim" //Infection, immunity and pharmacology. - Tashkent, 2019. - No. 1. - S. 183-189.
16. Patent for the invention of the Republic of Uzbekistan IAP 05631 dated 07/05/2018 /Diuretic agent / Azizov U.M., Khadzhieva U.A., Khudoyberdiev O.I., Madzhitova D.U.
17. Nechipurenko N.I., Pashkovskaya I.D., Prokopenko T.A. / The role of macro- and microelements in the pathogenesis of cerebral ischemia // Medical News. 2019. No. 1. pp. 32–37.
18. Fedorova O. Home monitoring of blood pressure increases the reliability of assessing cardiovascular risk in patients // Ukrainian Medical Journal. 2014. No. 1. S. 151.
19. Vasilevsky I.V. / Clinical and pharmacological characteristics of the "metabolic tandem" - preparations of potassium and magnesium // Medical News. 2016. No. 10. pp. 35–39.