Brief information about the project

Title	AP22685598 «To propose a method for obtaining a new domestic, effective phytopreparation from some plants of the genus *Petrosimonia»*.
Relevance	Today, pharmaceutical production in Kazakhstan is not well developed; we are still dependent on imports because we do not have enough medicines for public health. The impact of some drugs on the human body is sometimes small, and because most of them are synthesized, they are not removed from the body. Residues of drugs accumulate in some important organs such as the liver and kidneys, and as a result, people's health deteriorates further. The World Health Organization (WHO) estimates that approximately 65% of the world's population incorporates traditional medicine into medical care. Researching the composition of medicinal herbs used by our ancestors, determining their activity, using them for public health, modernizing traditional medicine, and meeting the needs of pharmaceutical production is an urgent issue. The action of medicinal plants depends on their composition.
Goal	Development of optimal technology and modernization of folk medicine using modern methods of extracting biologically active complexes from medicinal plants for the development of pharmaceutical production.
Tasks	Determining the qualitative composition and quantity of biologically active substances of some *Chenopodiaceous* family plants and conducting comparative analysis; -Development of an optimal technological block system for isolating biologically active complexes based on the examination results of the plants under study; - Determining the biological activity of isolated complexes; - Sending the complexes obtained from these plants for biological activity examination; - Separating compounds based on the complex shown by activity and proving their structure using physicochemical methods; -Examination of the isolated compounds for biological activity. Considering the need for pharmaceutical production and domestic medicines in our country, the proposed project is considered to be of great practical and social importance.
Expected and Achieved Results	A complete qualitative and quantitative analysis of the chemical composition of some plant species of the *Chenopodiaceae* family will be performed. In the process of separation of biologically active complexes from the composition of the studied plants, optimal technological block systems will be recommended using modern methods such as ultrasonic extraction, supercritical fluid CO_2 - extraction, and HPLC. Advanced physicochemical analysis methods such as CD, UV, IR, ^{13}C-NMR, ^{1}H-NMR, FAB-MS, ESI-MS, and HR-EI-MS will be used to prove the structure of isolated individual compounds. The activities of the isolated complexes and individual compounds will be investigated. Based on the expected socio-economic benefits from the project, the research results on the development of domestic

	pharmaceutical production and providing the population with quality medicines, as well as the artificial cultivation of wild medicinal herbs to ensure pharmaceutical manufacturing, will be proposed. The biological activity of isolated complexes and individual substances will be studied. Research results are widely discussed at scientific councils and in articles in high-rated journals of Scopus bases and the control committee in education and science at international scientific and practical conferences.
Names and Surnames of Research Group Members with Their Identifiers (Scopus Author ID, Researcher ID, ORCID, if available) and Links to Corresponding Profiles	Toktarmek M. - supervisor, Scopus Author ID: 57209507812, https://orcid.org/0000-0002-0979-6944 Burasheva G.Sh. – advicer, Scopus Author ID: 6507458098
Publications list with links to them	M. Toktarbek, G.A. Seitimova, G.Sh. Burasheva. Optimization method for obtaininag a biologically active substances from the plant *Petrosimonia brachiata* // News of the academy of sciences of the republic of kazakhstan. Series chemistry and technology – 2024, - Vol. 3. - №. 460. – P. 175-185, ISSN 2224–5286 DOI: 10.32014/2024.2518-1491.245
Patent information	-