

## Brief information about the project

Name of the project	AP19676676 «Development of a molecular epidemiological map of the prevalence of echinococcosis in the human population of Kazakhstan» (0123PK00931)
Relevance	The scientific study aims to identify: new cases of CE and AE by ultrasound scanning of the liver in rural areas of 17 regions of Kazakhstan; creation of a genomic biobank of <i>E. granulosus</i> and <i>E. multilocularis</i> isolates in the human population of Kazakhstan to study the most common genotypes and haplotype of the parasite, monitoring the immune response to albendazole therapy; formation of IRCE for joint monitoring of the diagnosis and treatment of CE in Kazakhstan with WHO specialists.
Purpose	Study of the genotypic prevalence and evaluation of the effectiveness of medical treatment of echinococcosis in the human population of Kazakhstan, including endemic regions, for effective response, management and reduction of the burden of cystic and multifocal echinococcosis as part of the WHO global roadmap «Neglected tropical diseases» 2021–2030.
Objectives	<ol style="list-style-type: none"><li>1. To study the causal relationship of factors contributing to the morbidity of the population of endemic (Turkestan, Zhambyl and Almaty / Zhetysu) and central (Akmola, Karaganda and Kostanay) regions of Kazakhstan with echinococcosis caused by <i>E. granulosus</i> and <i>E. multilocularis</i> within the framework of the WHO roadmap "Neglected tropical diseases" 2021–2030 to substantiate preventive screening for liver echinococcosis in endemic areas.</li><li>2. Improve and implement an algorithm for diagnosing AE based on ultrasound classification of AE.</li><li>3. Establish a genomic database of human isolates of <i>E. granulosus</i> and <i>E. Multilocularis</i> with CE or AE by region.</li><li>4. To study the prevalence of genotypes and haplotypes of <i>E. granulosus</i> and <i>E. Multilocularis</i> in endemic (Turkestan, Zhambyl, Almaty/Zhetysu) and central (Akmola, Karaganda and Kostanay) regions to develop a molecular epidemiological map of the prevalence of echinococcosis in the human population.</li></ol>

	<p>5. To study the diagnostic potential of interleukins 17 and 23 in the comparative evaluation of the effectiveness of the treatment of echinococcosis with albendazole.</p> <p>6. Systematic collection of clinical data from patients with CE in a single International Register of Cystic Echinococcosis (IRCE), to monitor treatment and disease recurrence.</p>
<p>Expected and achieved results</p>	<p>Published articles in Iranian Journal of Medical Sciences. An analysis of the results of studying the cause-and-effect relationship of factors contributing to the incidence of echinococcosis in the population of hyperendemic regions of Kazakhstan: Turkestan, Zhambyl and Almaty caused by E.granulosus and E.multilocularis was carried out within the framework of the WHO roadmap “Neglected tropical diseases” 2021–2030.</p> <p>Genotyping of chitin membrane samples from patients in Turkestan, Zhambyl and Almaty regions was carried out.</p> <p>Certificates of copyright for diagnostic and treatment methods were obtained: “ALGORITHM for Ultrasonic semiotics of types of alveolar echinococcosis” and “Algorithm for monitoring the immune response of drug treatment of alveolar echinococcosis”</p>
<p>Research team members with their identifiers (Scopus Author ID, Researcher ID, ORCID, if available) and links to relevant profiles</p>	<p>1) Ismailova Gulziya Nurtazaevna, Scientific supervisor, Candidate of Medical Sciences ResearcherID: I-5646-2014 ORCID: 0000-0002-7461-4190 Scopus Author ID: 57045813600. H index 3.</p> <p>2) Kaniev Shokan Akhmedbekovich, PhD - chief scientific officer, ResearcherID: O-5920-2017 ORCID: 0000-0002-1288-0987 Scopus Author ID: 57046012800. H index 2.</p> <p>3) Shapieva Zhanna Zhakanovna Candidate of Medical Sciences, leading researcher. ORCID: 0000-0002-7748-9436. Scopus Author ID: 56260794900 H-index 9.</p> <p>4) Uakhit Rabiga Seitbattalkyzy, Master of Technical Sciences, Master. ORCID: 0000-0001-7737-7162 Scopus Author ID: 57226673682. H-index 2.</p> <p>5) Sadykov Chingiz Takhirovich, junior researcher. ORCID: 0000-0001-5971-7821 ResearcherID: I-5646-2014 Scopus Author ID: 57211916625. H-index 1</p>

	<p>6) Mukazhanov Daniyar Erlanovich, junior researcher, doctoral student of the Faculty of Medicine and Health of Kazakh National University al-Farabi, specialty “Public Health”</p> <p>7) Bekenova Asemgul Berikovna, research fellow, resident of the Faculty of Medicine and Health Care of Kazakh National University al-Farabi, specialty “Radiation diagnostics”</p>
List of publications with links to them	<p>1) Clinical Outcome and Recurrence of Open versus Laparoscopic Nissen Fundoplication in the Republic of Kazakhstan during 2010-2021. Baimakhanov, B., Zhurayev, S., Shokebaev, A., Yenin, Y., Ismailova, G. Iranian Journal of Medical Sciences. DOI: <a href="https://doi.org/10.30476/IJMS.2023.96685.2839">10.30476/IJMS.2023.96685.2839</a></p> <p>2) Disseminated abdominal cystic echinococcosis after blunt abdominal trauma: A case report. Baimakhanov B.B., Harandi M. Fasihi, Kaniyev Sh.A., Ismailova G.N., Nurlanbayev E.K., Sadykov Ch.T., Muratkyzy G. Iranian Journal of Medical Sciences. 2024. <i>In press</i></p> <p>3) Factors determining accuracy of Chest Computed Tomography in outpatients during the SARS CoV-2 Omicron peak in Kazakhstan. Ismailova, G., Issayeva R., Abzaliyeva S., Kaniyev Sh., Inyakin V., Zhaugashev I. Clinics. 2024. <i>In press</i></p>
Patents	-