

## Brief information about the project

Name of the project	AP14972889 «Gene-infection interaction in spontaneous preterm birth» (0122PK00718)
Relevance	Infection and host inflammatory response to a potential pathogen play a critical role in preterm birth. It's one of the most preventable risk factors of the health condition. However, solely use of antibiotics seems to not effective for preventing the preterm birth. The role of inflammation and its regulation during implantation and parturition should be studied. Specifically, perturbations to the immunologic and inflammatory pathways caused by bacterial and viral infections, along with the specific host responses to these pathogens to identify the existence of genetical hyper-inflammatory phenotype is critical for interventions.
Purpose	To evaluated the role of certain single nucleotide polymorphisms (SNPs) in influencing expression of inflammatory response and subsequently investigated whether maternal lifestyle factors may potentially leading to preterm birth.
Objectives	<p>1. Assessment of the prevalence of polymorphism MBL2 and TLR4 in spontaneous preterm birth. To implement this task, a blood sample will taken from the spontaneous preterm birth groups include preterm premature rupture of membranes and idiopathic preterm. The term births for controls for further investigation.</p> <p>2. To investigate the association between pathomorphological manifestations of chorioamnionitis and spontaneous preterm birth. To implement this task, an obstetrician-gynecologist will take fetal membrane and placenta for further histological examination immediately after childbirth and place them in a 10% formalin buffer solution. The sample will be examined by the classical method - hematoxylin-eosin staining, morphostereometry and microscopy.</p> <p>3. To determine the maternal lifestyle factors, phycological stress and health status during pregnancy and their association with spontaneous preterm birth. Creation and validation of a questionnaire to identify risk factors for Preterm premature rupture of membranes.</p> <ul style="list-style-type: none"> <li>• A questionnaire to identify risk factors for preterm birth will be developed and validated.</li> </ul>
Expected and achieved results	<p>1. The role of microflora in the development of labor pathology will be studied. A complete picture of the relationship between genomic polymorphism and placental changes in preterm pregnant women will be presented. The mechanism of development of premature birth in women living in the Aktobe region will be studied and presented.</p> <p>2. Based on the histological examination of the placenta, morphological criteria will be presented - cell - tissue</p>

	markers that are characteristic of multifactorial effects during pregnancy and emerging preterm birth. The obtained data will complement the understanding of the role of infectious agents in the formation of placental transformations leading to adverse pregnancy outcomes.
Research team members with their identifiers (Scopus Author ID, Researcher ID, ORCID, if available) and links to relevant profiles	Berdalinova Akzhenis Krimgereevna, Ph.D.
List of publications with links to them	-
Patents	-