

NRCPD-OUAVM Joint Research Report

Date: 2026.5.29

Project no: 2025-joint-22

1. Principal investigator

Name: Atambekova Zhyldyz

Position: Researcher

Affiliation: Kyrgyz Research Institute of Veterinary named after A. Duisheev, Kyrgyzstan

2. Project title:

Surveillance of clinical bovine babesiosis in Kyrgyzstan

3. Collaborating research group members at NRCPD

Name: Naoaki Yokoyama

Position: Professor

4. Research period

4/1/2025 – 3/31/2026, One year

5. Purposes and objectives

Bovine babesiosis is a severe disease in cattle caused by *Babesia* species. My recent survey conducted in collaboration with NRCPD detected *B. bovis*, *B. bigemina*, and *B. occultans* in cattle in Kyrgyzstan, indicating that clinical bovine babesiosis may be prevalent (Zhyldyz et al., 2023). In consistent with this assumption, local veterinarians often encounter cattle with clinical signs consistent with bovine babesiosis, such as fever, anemia, and hemoglobinuria. However, due to insufficient diagnostic knowledge, these cases often remain untreated, resulting in cattle deaths. To address this gap, the proposed study aimed to investigate clinical bovine babesiosis in collaboration with WOA Reference Laboratory for Bovine Babesiosis at NRCPD.

6. Outline of research process

The present study defined a case of bovine babesiosis as a cow with fever, anemia, and hemoglobinuria. Based on this definition, clinical examinations were conducted on 15 cattle from four provinces in Kyrgyzstan, including Chuy, Talas, Jalal-Abad, and Batken. Blood samples were collected, and DNAs were extracted. These DNA samples were transferred to NRCPD and screened for *B. bovis* and *B. bigemina*. In addition, the DNA samples were also screened using a newly developed *B. occultans*-specific PCR assay.

7. Outline of research achievements

- All 15 babesiosis-suspected cattle were infected with at least one *Babesia* species: six with *B. bovis*, six with *B. bigemina*, one with *B. occultans*, and two co-infected with *B. bovis* and *B. bigemina*.
- Sequencing analysis of PCR amplicons confirmed the PCR results.
- Bovine babesiosis was identified as a concern for cattle health in Kyrgyzstan.
- Researchers at the Kyrgyz Research Institute of Veterinary were trained on molecular diagnosis of bovine babesiosis.

8. Publication of research achievements

None