

Summary of the Ph.D thesis No., **17890** . **Bacteriology**, Faculty of Veterinary Medicine, Urmia University.

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Title: Molecular detection of *Brucella* from dairy products of Alborz City by Nested-PCR method

Abstract:

Brucellosis is one of the important zoonotic diseases between animals and humans and has a high prevalence all over the world, including in Iran. Milk and dairy products produced from infected animals are among the main sources of *Brucella* bacteria transmission to humans. This disease is common among humans and pets. The purpose of this study is to evaluate the prevalence of *Brucella* contamination in dairy products in different regions of Alborz province, as well as to determine the sequence based on the *16SrRNA* gene of *Brucella* and draw its phylogeny tree. Considering the uncertainty of the level of contamination and prevalence of *Brucella* bacteria, and considering their prevalence rate of 50% in Alborz province, a total of 200 samples were collected, including 50 milk samples, 50 yogurt samples, 50 cheese samples, and 50 raw milk samples from dairy product stores. Immediately after collection, the samples were transferred to the bacteriology laboratory of the Faculty of Veterinary Medicine. Berri et al.'s method was used to extract *Brucella* genomic DNA from the collected milk samples. Polymerase chain reaction (PCR) and amplification of the *16SrRNA* gene were used to confirm *Brucella* infection. In total, out of the 200 milk samples collected from milk distribution centers in Alborz province, 15 samples tested positive for *Brucella* based on PCR using the *16SrRNA* gene that identifies the genus *Brucella*. Furthermore, species identification primers were used to investigate *Brucella abortus* species using the rbsK gene, resulting in 9 positive samples for *Brucella abortus* gene. For phylogeny analysis, positive samples from the Nested-PCR stage were sent to Pishgam for sequencing. The obtained sequences were then registered in the gene bank (NCBI), and BLAST tests were conducted on isolated sequences in the gene bank.

Key words: *Brucella*, Malt fever, milk, PCR.