

The Bovine Mammary Glands Cytokines at the Periparturient Period

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Abstract

Bovine mammary glands are susceptible to intramammary infection at the periparturient period. Cytokines are one of the sensitive means in examining the immune responses of mammary glands and they could serve as a suitable tool for the udder health control or in evaluating of mastitis treatment or vaccine efficiency at this period. The gene expression of cytokines, IL-1 α , IL-1 β , IL-2, IL-4, IL-6, IL-8, IL-10, IL-12, IFN- γ and TNF- α were examined in milk cells from cattle two weeks before their parturition and cattle at their mid-lactation with RT-PCR. All cytokines were detected in milk cells from periparturient period except IL-12, whereas in milk cells from mid-lactation, cytokines IL-2, IL-4, and IL-12 cDNA failed to be detected. The results indicated the versatility of this approach in providing flexible tool to reveal the status of the mammary glands at this period.

Key Words: Cytokines, bovine, mastitis, periparturient, IL-12, RT-PCR

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