Leptin mRNA expresses in the bull reproductive organ

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Abstract Leptin, a 167-amino acid hormone, is secreted mainly by fat tissue. It has some powerful effects on the regulation of metabolism and reproductive function through endocrine and probably paracrine mechanisms. The contribution rate of leptin function on the male reproductive system is not still clear. Characterization of leptin expression in reproductive organs will suggest that in addition to its endocrine action, leptin has also paracrine/autocrine effects on reproduction. The expression of functional leptin receptor mRNA has been already recognized in testis of rodents, human and cattle. Thus, the aim of the present study was to investigate the presence of leptin mRNA in the bovine testis, because it will be the first step for understanding of its paracrine/autocrine effects on the male reproductive organs in cattle. The present study was the first to showed leptin mRNA expression in the testis of Holstein cattle using reverse transcription and polymerase chain reaction (RT-PCR) analysis. RT-PCR products were amplified with nested PCR using inner leptin primer pairs to emphasis the first results. Besides, bovine beta actin gene was acted as an internal positive control as well as RNA purification marker. Our findings suggest that in addition to its endocrine actions at the hypothalamic-pituitary axis, leptin can has an autocrine and/or paracrine role in bull testicular function.

Keywords Bull · Leptin mRNA · Testis · RT-PCR