

Leptin mRNA is present in epididymal bovine spermatozoa

The present study aimed to investigate the presence of leptin mRNA transcript in epididymal spermatozoa of Holstein cattle by RT-PCR analysis. To collect sperm from epididymis, the whole testes of three adult Holstein bulls were quickly removed after slaughtering. Samples were transferred to the laboratory on ice and subsequently the epididymal contents were collected and transferred to a plate containing BO medium. Then, normal and motile spermatozoa were isolated by swim-up method. Total RNA was extracted by TRIzol procedure, and was used to construct cDNA. The PCR with epididymal spermatozoa cDNA and outer leptin primer pairs resulted in amplification of the expected product. To confirm the first results, RT-PCR products were amplified with nested PCR using inner leptin primer pairs. Both outer and inner primer pairs, which were located in exon 2 and exon 3 be RNA specific, gave the expected PCR amplified products, 441 bp and 384 bp, respectively. The presence of leptin mRNA in bovine epididymal spermatozoa suggest the ability of bovine sperm in leptin secretion, as established in human. Moreover, our results evoke the existence of a paracrine/autocrine mechanism for leptin in bovine sperm similar to human sperm and probable actions of leptin on bovine spermatozoa such as metabolism, capacitation and survival should be investigated.