عنوان مقاله:

Expression of calpastatin gene in Kermani sheep using real-time PCR

محل انتشار:

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خلاصه مقاله:

The aim of this study was to investigate the calpastatin gene expression in different tissues of Kermani sheep using the real-time PCR. Tissue samples from the brain, humeral muscle, femoral muscle, liver, adipose tissue, rumen and testis were taken from ۳۰ Kermani sheep. Total RNA was extracted using RNXTM plus solution. To determine the quantity (concentration) and quality of the extracted RNA, two methods of RNA; electrophoresis on ۱% agarose gel and a Nano drop device were used. A Thermoscientific kit (Iran) was used for cDNA synthesis. After performing normal PCR reactions and obtaining the desired binding conditions and temperature for the genes, real-time PCR was performed to study the relative gene expression. The Beta-actin gene was used as a housekeeping gene. The Pfaffl method was used to analyze the data. The quality of the extracted RNAs was good. The presence of two ۱۸S and ۲۸S bands in the rRNA indicated that the RNA was healthy and the absence of an additional band was an indication of its purity. For the calpastatin gene, the ۱۸۹bp fragment, and for Beta-actin, the ۲۰۶bp fragment was observed in all tissues. The real-time PCR findings showed that calpastatin gene was expressed in all tissues (brain, humeral muscle, liver, adipose, femoral tissue, rumen and testis) with the highest level of expression in the humeral and femoral muscles and the lowest level in adipose tissues. This study lays a foundation for further calpastatin research in sheep. It is suggested that this study be conducted on a greater number of animals, and different breeds, sexes, ages and .physiological stages to reach a more comprehensive conclusion

کلمات کلیدی:
calpastatin, Gene expression, Kermani sheep, tissue