ABSTRACT

Heat shock proteins (HSPs) has various functions and their common features are that they are produced in sudden changes of temperature, anoxia, reactive oxygen metabolites and changes in glucose levels, aging, and lots of other stress events. According to their molecular weights these proteins are classiffied as HSP 100, HSP 90, HSP 70, HSP 60, sHSP and ubiquitin.

HSP 60, is localized in mitochondria and cytosol, HSP 70, is localized in cytoplasm, nucleus, endoplasmic reticulum and mitochondria. These heat shock proteins which are needed for the protection of the organism from stress also provides the balance between the folded and misfolded proteins.

In this study, we aimed to evaluate the quantitative determination of HSP 60 and HSP 70 mRNA expressions and to analyze the correlation between the expression levels of HSP 60 and HSP 70 mRNA in different age Saanen goats. In order to pursue this study the levels of HSP 60 and HSP 70 mRNA was analyzed in 30 different age Saanen goats by Real-Time quantative RT-PCR.

As a result, levels of HSP 60 and HSP 70 mRNA expressions in group I (1-8 months old) Saanen goats were significantly higher than group II (4-6 years old) Saanen goats.

In conclusion, a further study with long-term follow up of larger goat populations by considering the effects of the different stress parameters is required to confirm the clinical application of this molecular marker.

Key words: Heat shock proteins, HSP, qRT-PCR, goat.