EXPRESSION PROFILE OF ANTIMICROBIAL PEPTIDES GENES AFTER MICROBIAL CHALLENGE IN TICK EMBRYONIC CELLS (BME26)

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Ticks are obligatory blood-sucking arthropods and important vectors of both human and animal diseases. In order to study the immune response of these animals against pathogens, we are using a culture of embryonic cells (BME26) of *Boophilus microplus* as model. These cells play some immune functions, such as phagocytic activity and constitutive expression of three AMP encoding genes: microplusin, defensin, and ixodidin. Interestingly, the gene expression of microplusin increases upon challenge with *Micrococcus luteus* or *Enterobacter cloacae*, as determined by Real Time-PCR experiments. We are also investigating the gene expression modulation of defensin and ixodidin. Analysis by immunofluorescence microscopy showed that microplusin is located in cytoplasmatic compartments of BME26 cells. We are currently evaluating the secretion of microplusin by challenged cells to the medium culture. In addition, BME26 cells were infected with *Anaplasma marginale*, a pathogen naturally transmitted by *B. microplus*, and the gene expression profile of AMPs is being established. With the aim to elucidate the importance of the RNA transcripts of those three AMP, their expression will be silenced by RNAi in near future.
Key words: antimicrobial peptides, embryonic cells, tick.

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