

# IDENTIFICATION AND EXPRESSION ANALYSIS OF NOVEL NON-CODING RNA IN *ACINETOBACTER BAUMANNII*

## ABSTRACT

Non-coding RNA (ncRNA) molecules are RNAs that have been implicated in regulation of various cellular processes in living systems, allowing them to adapt to change in environmental conditions. *Acinetobacter baumannii* has emerged as a significant multiple drug resistant nosocomial pathogen in which very limited ncRNAs have been reported so far. In the present study, a combination of bioinformatic, transcriptome and expression analyses were used for identification of novel ncRNAs. A total of 38 novel ncRNAs were identified in the current study and interestingly all are genus specific. On the basis of high Reads Per Kilobase of transcript per Million mapped reads (RPKM) value, novel ncRNAs were selected and analysed for their expression by northern blot. These selected novel ncRNAs were designated as AbaR-43, AbaR-52, AbaR-77 and AbaR-277. Differential expression of AbaR-43, AbaR-77 and AbaR-277 were observed in different growth phases (lag, exponential and stationary) and oxidative stress condition in *A. baumannii*. The ncRNA, AbaR-52 expression was observed in stationary phase of *A. baumannii*. This study also predicts the possible function of these ncRNAs based on their potential target mRNAs and secondary structure using TargetRNA2 and RNAfold web servers respectively.