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ISOLATION AND MOLECULAR CHARACTERISATION OF ACTIN GENE OF *Trypanosoma evansi* FROM INDIAN DROMEDARIES

Sanjay Kumar and S.K. Ghorui
National Research Centre on Camel, Jorbeer, P.B.-07, Bikaner 334001, Rajasthan, India

ABSTRACT

The present study was carried out to isolate the actin gene of *Trypanosoma evansi* by reverse transcription polymerase chain reaction, clone the amplicon in a suitable bacterial plasmid vector, characterisation of gene through sequencing and molecular modeling of obtained actin protein. Total RNA of *T. evansi* was used to amplify the actin gene by RT-PCR, amplification was done using gene specific primers and desired amplicon was identified on the basis of size of the gene. For cloning, DNA fragment of interest was then ligated to the pGEM- T Easy vector and ligated mixture was transformed into *Escherichia coli* JM109 strains. After cloning, screening of recombinants was done by restriction enzyme digestion of plasmid DNA. After confirmation of clone, the plasmid DNA was sequenced and coding sequences of actin gene was of 1131bp. Sequence analysis revealed that actin gene of *Trypanosoma evansi* from Indian isolate shared 81.4 - 99.5% and 93.4 – 98.7% sequence identity at the nucleotide and amino acid level, respectively with isolates from different geographical areas of the world.

Keywords: Actin gene, Indian dromedaries, molecular characterisation, *Trypanosoma evansi*