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MOLECULAR CHARACTERISATION OF KERATIN-ASSOCIATED PROTEIN-7 (*KRTAP7*) GENE FOR HAIR QUALITY IN INDIAN DROMEDARY CAMEL

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ABSTRACT

The keratin-associated proteins (*KRTAPs*) play important role in describing the physical and mechanical properties of the fibre *viz*. fibre thickness and curliness to the hair fibres. In this report, the molecular and functional characterisation of the *KRTAP7* gene in four Indian camel breeds i.e. Bikaneri, Jaisalmeri, Kachchhi and Mewari is described based on a comprehensive analysis of the nucleotide and amino acid sequences. The blood sample was collected from representative animals differing in fibre quality. The *KRTAP7* gene was amplified, sequenced and analysed for genetic characterisation. The coding sequence of the *KRTAP7* gene was of 264bp. The *KRTAP7* gene sequences from all four breeds of camel were identical. No SNPs were noticed in coding (CDS) and non-coding (5′ UTR and 3′ UTR) regions of *KRTAP7* gene. The complete coding sequence (CDS) of the *KRTAP7* gene translated to 87 amino acids (aa) long *KRTAP7* protein. The phylogeny analysis of nucleotide and protein sequence of Indian dromedary *KRTAP7* gene revealed closet relationship with *Camelidae* family. This study provides information about the *KRTAP7* gene in Indian dromedary camel.

Key words: Camel, dromedary, hair fibre, keratin-associated protein-7 (*KRTAP7*) phylogeny