



Identification of cDNA sequences and alternative splicing patterns of canine *AMEL* genes (*AMELX* and *AMELY*)

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ABSTRACT. Amelogenin is a major protein of the developing enamel matrix. There are two amelogenin genes (*AMELX* and *AMELY*) located on the X and Y chromosomes, respectively, in dogs. In the present study, we characterized full-length cDNAs and alternative splicing patterns of the *AMEL* genes in the tooth tissue of a dog by 5'- and 3'-rapid amplification of cDNA ends and *AMEL*-specific RT-PCR. Sequence analysis revealed that the coding regions of *AMELX* and *AMELY* were 579 and 576 bp (accession Nos. KP244310 and KP244311), respectively. The coding sequence of *AMELX* had 95.1% identity to that of *AMELY*. The *AMEL* genes on X and Y chromosomes were both expressed in developing tooth tissue. Eight different alternatively spliced transcripts were identified, five from *AMELX* and three from *AMELY*.

Key words: Amelogenin; Alternative splicing; Dog