



Screening and analyzing genes associated with Amur tiger placental development

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ABSTRACT. The Amur tiger is a unique endangered species in the world, and thus, protection of its genetic resources is extremely important. In this study, an Amur tiger placenta cDNA library was constructed using the SMART cDNA Library Construction kit. A total of 508 colonies were sequenced, in which 205 (76%) genes were annotated and mapped to 74 KEGG pathways, including 29 metabolism, 29 genetic information processing, 4 environmental information processing, 7 cell motility, and 5 organismal system pathways. Additionally, PLAC8, PEG10 and IGF-II were identified after screening genes from the expressed sequence tags, and they were associated with placental development. These findings could lay the foundation for future functional genomic studies of the Amur tiger.

Key words: Amur tiger; Gene expression profiling; ITL-2; PLAC8; PEG10; Placenta