

研究报告

人类锌指结构新基因ZNF18的克隆和表达谱分析

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摘要 在很多转录因子中发现的锌指结构,被认为在人类心脏的发育和相关疾病的发生过程中发挥重要的作用。本文报道了克隆和表达分析人类新的锌指蛋白基因ZNF18。该基因cDNA长2 767 bp, 编码一个有549个氨基酸的蛋白, 这一蛋白含有一个SCAN结构域, 一个KRAB结构域和5个连续的C2H2型锌指结构域。ZNF18蛋白与小鼠Zfp535有77%的同源性。ZNF18基因定位于人染色体17p12~p13, 包含9个外显子和8个内含子。以ZNF18全长编码区为探针进行Northern杂交, 结果显示ZNF18在成体小鼠各组织中广泛表达, 但在心脏中低丰度表达。整体原位杂交结果显示, ZNF18基因在小鼠胚胎的表达有很高的动态性。ZNF18主要在E7.5小鼠胚胎的胚外组织表达, E8.5出现了胚胎躯干前端表达。ZNF18从E9.0开始在胚胎的心脏和尾部表达, 尤其在E10.5胚胎的心脏高丰度表达。这提示ZNF18基因与心脏发育过程可能有密切的关系。

关键词 [ZNF18基因](#); [C2H2锌指结构域](#); [胚胎整体原位杂交](#)

分类号 [Q74](#) , [Q78](#)

Molecular Cloning and Expression Analysis of a Novel Human Gene ZNF18

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Abstract

The zinc-finger motif found in many transcription factors is thought to be important for human heart development and diseases. This study reports cloning and expression analysis of a novel human zinc finger protein ZNF18 cDNA. The ZNF18 cDNA is 2 767 bp in length encoding a 549-amino-acid protein that contains a SCAN-box, a KRAB box and five consecutive C2H2 zinc finger motifs. ZNF18 shows high similarity with mouse Zfp535 (identity 77%). The ZNF18 gene is located on human chromosome 17p12~p13 with 9 exons and 8 introns. ZNF18 was ubiquitously expressed in adult mouse tissues except heart as revealed by Northern blot. Whole-mount in situ hybridization showed that expression of ZNF18 in mouse embryos was very dynamic. Expression was predominantly in extraembryonic tissues of E7.5 mouse embryo. By E8.5, ZNF18 began to express in anterior of trunk, and became abundant in tail and heart at E9.0, especially in the embryo heart at E10.5. These expression results suggest that ZNF18 may play an important role in the development of embryo heart.

Key words [ZNF18](#) [C2H2 zinc finger domain](#) [whole-mount in situ hybridization](#)

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