

研究报告

胡杨锌指蛋白基因克隆及其结构分析

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摘要 锌指蛋白属于核转录因子家族, 在原核生物与真核生物基因转录调控中发挥作用。分析了耐盐锌指蛋白 Alfin-1 基因在苜蓿与拟南芥中的保守性后, 设计了一对引物。以胡杨水培叶片为材料, 从总RNA中通过RT-PCR分离得到一个锌指蛋白基因, 其cDNA长924bp。分析其氨基酸序列表明, 存在一个典型的Cys2/His2锌指结构, 从第556位开始有一个富含G的启动子结合位点GTGGGG。由于具有相同功能的转录因子在结构和DNA结合区的氨基酸序列上具有保守性, 因此, 从结构分析上可以推测该基因与Alfin-1在功能上是有一定的相关性。

关键词 [胡杨](#) [锌指蛋白](#) [基因克隆](#)

分类号

Cloning and Structure Analysis of Zinc Finger Protein Gene in Populus Euphratica Oliver

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Abstract

Zinc finger proteins belong to a family of nuclear transcription factors which function is to regulate gene expression in both prokaryotic and eukaryotic cells. A pair of primers was designed after analyzing the conservation of salt-tolerant zinc protein Alfin-1 in such diverse plants as alfalfa and Arabidopsis. The zinc finger protein gene is isolated from total RNA with RT-PCR in aquaculture leaves of Populus euphratica. Its full cDNA length is 924bp. Analysis of its amino acid sequence showed it has a typical Cys2/His2 zinc finger structure and a G-rich promoter binding site GTGGGG, starting from position 556. Since transcriptional factors which have the same function show conservation in structure and amino acid sequence of DNA binding region, the structure analysis in this paper indicates the cloned zinc finger protein gene may have functional correlation to Alfin-1.

Key words [Populus euphratica](#) [zinc finger protein](#) [gene cloning](#)

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