

研究报告

水稻C2H2型锌指蛋白基因 *RZF71* 的克隆与表达分析

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收稿日期 2006-7-18 修回日期 2006-11-23 网络版发布日期 2007-4-12 接受日期

摘要

利用生物信息学和RT-PCR方法从水稻幼苗组织中分离了1个新的C2H2型锌指蛋白基因 *RZF71*, 该基因编码一条250个氨基酸残基的多肽, 含有两个典型的C2H2型锌指结构。半定量RT-PCR分析表明: *RZF71*在根、茎、叶和幼穗中呈组成性表达, 在根中的表达丰度略高; 在高盐和PEG6000胁迫的水稻幼苗组织中, *RZF71*的表达显著增强, 但低温和ABA处理对该基因的表达量影响不大。农杆菌介导的洋葱表皮细胞GFP瞬时表达实验表明: *RZF71*定位于细胞核内。讨论了*RZF71*可能作为一个转录调控因子在水稻耐高盐和渗透胁迫中的作用。

关键词 [水稻](#) [锌指蛋白](#) [基因克隆](#) [非生物胁迫](#) [表达分析](#)

分类号

Cloning and characterization of *RZF71* encoding a C2H2-type zinc finger protein from rice

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Abstract

<P>A rice zinc-finger protein gene, *RZF71*, encoding the C2H2-type zinc-finger transcription factor was isolated from rice (*Oryza sativa* L. subs. Japonica) by RT-PCR approach. Gene *RZF71* encodes a 25 kDa protein with 250 amino acids, which contains two typical C2H2 zinc finger domains. The expression profiling showed that *RZF71* was constitutively expressed in roots, culms, leaves, and flowering spikes. The semi-quantitative RT-PCR assay showed *RZF71* was strongly induced by high-salinity and 20% PEG6000 treatments, but not regulated by low temperature and ABA (abscisic acid) treatments. Transient expression of the *RZF71*-GFP protein in onion epidermal cell showed that *RZF71* was localized in cell nuclei. These results indicated that the *RZF71* may play an important role in rice responses to salt and osmotic stresses as a transcription factor.</P>

Key words [rice](#) [zinc finger protein](#) [gene cloning](#) [abiotic stress](#) [expression analysis](#)

DOI: 10.1360/yc-007-0607

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