

橡胶草HMGR基因的克隆及表达分析

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摘要

通过比较9种植物的9条甲羟戊酸途径关键酶3-羟基-3-甲基戊二酸单酰辅酶A还原酶(HMGR)氨基酸同源区域, 设计简并引物, 利用RT-PCR和RACE技术首次从橡胶草(*Taraxacum kok-saghyz*)中克隆了一个HMGR基因, 命名为TKHMGR。通过氨基酸序列同源性比对与系统进化分析表明, TKHMGR属于HMGR基因家族的新成员。同时, 利用荧光定量方法分析了该基因在不同组织的表达情况。

关键词 [橡胶草](#); [HMGR](#); [基因克隆](#); [序列分析](#); [荧光定量](#)

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Cloning and Expression Analysis of HMGR Gene from *Taraxacum kok-saghyz*

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Abstract

Based on the design of degenerated oligonucleotides according to the conservative regions of nine 3-hydroxy-3-methylglutaryl-CoA reductases from nine plants and the total RNA extracted from *Taraxacum kok-saghyz*, a HMGR named TKHMGR was first obtained using the techniques of degenerate RT-PCR and RACE. Comparison of the amino acid sequence homology and system evolution analysis show that, TKHMGR belongs to the new members of the HMGR gene families. At the same time, the gene expression in different organizations was analyzed using fluorescence quantitative method. The cloning, bioinformatics analysis and expression analysis of this gene laid a foundation for further research on its function.

Key words [Taraxacum kok-saghyz\(TKS\)](#) [3-hydroxy-3-methyl-glutaryl-coenzyme A reductase\(HMGR\)](#) [gene cloning](#) [sequence analysis](#) [fluorescence quantitation](#)

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