



黄芩查耳酮合酶基因内含子在转基因烟草中 对GUS活性调控的初步研究

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中文摘要:目的:通过对黄芩查耳酮合酶基因内含子区域分析,初步分析其功能。方法:设计特异引物克隆黄芩查耳酮合酶内含子,并通过生物信息学方法预测其顺式作用元件组成;将内含子插入植物表达载体pCAMBIA 1301中,转化烟草后观察GUS在各种非生物胁迫下的活性。结果:在查耳酮合酶内含子中预测了7种顺式元件;黑暗及高温条件下,GUS活性先上升(3 h),后降低(9 h);10%PEG处理条件下,GUS活性上升;ABA及MeJA对GUS的表达的调节作用不明显。结论:黄芩查耳酮合酶基因内含子可能参与了外界环境对黄芩有效成分的调控。

中文关键词:黄芩 查耳酮合酶 内含子 非生物胁迫

Preliminary functional analysis of intron in chalcone synthase gene from *Scutellaria baicalensis*

Abstract:Objective: To study the function of the chalcone synthase gene introns in *Scutellaria baicalensis*, and clarify preliminarily their role in abiotic stress. Method: The *CHS* introns with specific primers were cloned and bioinformatic method was applied to predict the cis-elements in the intron of *CHS*. The introns were subcloned into binary vector, pCAMBIA-1301 before being transferred to tobacco. Then the activity of GUS of the transgenic tobacco seeds was analyzed. Result: Seven cis-elements were found in the introns. Under the dark and high temperature GUS expression rose at the first (3 h), but then declined (9 h). ABA and MeJA regulated insignificantly the GUS activity in normal temperature; treatment of 10% PEG induced GUS expression. Conclusion: *CHS* introns could be play a role in the regulation of *S. baicalensis* phenylpropanoid biosynthetic pathway.

keywords: *Scutellaria baicalensis* chalcone synthase intron abiotic stress

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