

简报

商陆小G蛋白激活蛋白基因 PaAGAP 在逆境下表达研究

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摘要:

利用同源克隆和RACE方法在商陆(*Phytolacca acinosa*)中得到一个推测的小G蛋白ArfGTPase激活蛋白 ArfGAP (ArfGTPase activating protein) 的全长cDNA序列 PaAGAP。PaAGAP 序列编码332个氨基酸。蛋白含有保守的锌指结构域(CX₂CX₁₆CX₂C类)和C2结构域。实时荧光定量PCR表明在寒、早、盐和重金属的不同时间胁迫下, *PaAGAP*可以被诱导, 表达量有不同程度的上调。由此推测 PaAGAP 可能是通过快速启动转录和翻译, 使 ARF失活, 抑制植物生长素极性运输, 来参与植物逆境反应的。

关键词: 商陆 ArfGAP 锌指 逆境 表达

Cloning and expression analysis of *PaAGAP* gene from *Phytolacca acinosa* in response to various kinds of stress

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Abstract:

A full-length cDNA of an ArfGAP (PaAGAP) encoding 332 amino acids was cloned from *Phytolacca acinosa* by using methods of homology-based cloning and RACE. *PaAGAP* is predicted to contain a CX₂CX₁₆CX₂C type zinc finger domain and a C2 domain. Real-time PCR analysis revealed that the expression of PaAGAP was up-regulated in response to low temperature, osmotic, salt, and heavy metal stresses, indicating a potential role of *PaAGAP* in the plant stress response that involves the inactivation of ARF and the inhibition of polar auxin transport.

Keywords: *Phytolacca acinosa* ArfGAP zinc finger stress expression

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