

农学—研究报告

IP3敏感的钙离子通透性通道参与茉莉酸诱导的钙动员

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摘要:

以低温导入法将钙离子荧光探针Fluo-3/AM导入拟南芥叶片细胞中, 利用LAS AF (Leica Application Suite-Advanced Fluorescence) 软件记录肝素对茉莉酸(JA)诱导的胞内钙离子荧光强度的变化。结果显示, 经不同浓度的肝素预处理后, 拟南芥叶细胞中胞内钙离子的荧光强度降低, 再用100 μmol/L JA处理时, 其荧光强度升高, 但仅与未经肝素处理的荧光强度相当。实验证明, 肝素预处理可抑制JA诱导的胞内钙离子浓度的升高。

关键词: 拟南芥; 钙离子; 肝素; 茉莉酸

IP3 Sensitive Calcium Channel Involved in the Jasmonic Acid Induced Calcium Mobilization

Abstract:

Arabidopsis thaliana leaves were labeled by fluorescent probe Fluo-3/AM under low temperature at 4 °C to measure the fluorescent intensity of intracellular Ca²⁺ which was pretreated with heparin on jasmonic acid (JA)-induced. The results showed that the fluorescent intensity of [Ca²⁺]cyt was reduced after pretreated with different concentration of heparin, and then treated with 100 μmol/L JA, the fluorescent intensity of [Ca²⁺]cyt was close to the fluorescent intensity which was not pretreated with heparin. The experiment showed that the pretreatment with heparin could inhibit the increase of the intracellular Ca²⁺ concentration significantly which JA-induced in leaves of Arabidopsis thaliana.

Keywords: Arabidopsis thaliana Ca²⁺ heparin; jasmonic acid

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