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简报

印度芥菜重金属ATP酶基因的分离与表达

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摘要:

利用同源序列克隆技术在印度芥菜幼苗中分离出2个重金属ATP酶cDNA片段*BjHMA 3* 和*BjHMA 4* ;实时荧光定量PCR表明*BjHMA 3*和*BjHMA4* 在所有的组织器官中均有表达,其中在根中表达量最高,叶片中表达量最少;重金属Zn或Cd胁迫均能增强二者在叶片中的表达,表明BjHMA不仅参与植物的生长发育过程,而且在重金属稳态和耐性中具有重要作用.

关键词: 印度芥菜 重金属ATP酶 基因表达

Isolation and expression of heavy metal ATPase in *Brassica juncea* L.

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Abstract:

Brassica juncea L. is a Zn/Cd tolerance plant, and the gene expression of heavy metal ATPase (HMA) has not been reported. In the present work, two cDNA fragments of *BjHMA, BjHMA 3* and *BjHMA 4* , were isolated from *B. juncea* seedling. Real-time quantitative PCR analysis revealed that both *BjHMA 3* and *BjHMA 4* were constitutively expressed in all tissue and preferentially in root. The mRNA profile of *BjHMA 3* or *BjHMA 4* was the lowest in leaf while the expressions were strongly enhanced by Zn or Cd stress, indicating that *BjHMA* played important roles in growth and in heavy metal homeostasis and tolerance in plant.

Keywords: *Brassica juncea* L. heavy metal ATPase gene expression

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