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## 豆科植物Pht1磷转运蛋白家族基因的研究进展

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摘要: 磷是植物生长发育必需的大量矿质营养元素之一。植物获取磷是由磷转运蛋白介导的, 因此对磷转运蛋白的调控是植物适应低磷胁迫的有效机制之一。Pht1磷转运蛋白家族基因是目前研究较为深入的磷转运蛋白基因家族, 主要负责植物对外界磷的吸收以及植株体内磷的运转。大部分豆科植物是能进行共生固氮的环境友好型植物, 对豆科植物Pht1磷转运蛋白基因功能的深入挖掘是实现豆科植物氮磷协同高效的基础。本文主要介绍了近年来豆科植物Pht1磷转运蛋白家族基因的研究进展, 并指出今后研究的主要方向, 为豆科植物磷效率的遗传改良提供新思路。

Abstract: Phosphorous (P) is one of the essential macronutrients for plant growth and development. Since P acquisition is mainly mediated by phosphate transporters (PTs), regulating PTs is one of the adaptive mechanisms of plants in response to P deficiency. Pht1 family genes have been well known as encoding high affinity PTs with the functions in phosphate (Pi) uptake from soils and Pi translocation within plants. Most of leguminous plants are able to fix nitrogen (N) through symbiotic association, and therefore are environmental friendly. To dig out the underlying mechanisms of PTs is the base to coordinately improve N and P efficiency in Legumes. Here we summarized recent progresses on Pht1 family genes in legumes, and also attempt to envision future perspectives of this study area so as to provide innovative approach to improving leguminous P efficiency through genetic modifications.

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