

植物诱变育种 · 农业生物技术

microRNA在植物生长发育中的作用

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摘要:

microRNA(miRNA)是一类长度约为21-27核苷酸的小分子非编码RNA,广泛存在于真核生物中。它在转录后水平负调控靶基因的表达,因而在植物生长发育过程中发挥重要作用。miRNA的靶基因通常是调控植物生长发育和信号转导通路中的转录因子,表明miRNA处于基因表达调控网络的核心位置。本文综述近年来miRNA在植物生长发育方面的调控作用,探讨在各植物器官中发挥主要作用的miRNA以及有关miRNA的长途运输作用方式。

关键词: microRNA 靶基因 转录因子 发育 调控

Functions of MicroRNAs in Plant Development

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Abstract:

MicroRNAs (miRNAs) are a class of endogenous small non-coding RNAs with the length of 21-27 nucleotides in eukaryote organisms. Plant miRNAs, as negative regulators of gene expression at the post-transcriptional level, have important roles in developmental processes. The target genes of miRNAs are usually the transcription factors involved in plant development and signal transduction pathways, implying that miRNAs are essential components in gene regulatory network. This review focuses on the crucial regulatory roles of miRNAs in plant growth and development, and highlights the principal function structures of these miRNAs. It also covers the long-distance transport of miRNAs.

Keywords: MicroRNA Target Gene Transcription Factor Development Regulation

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