

专论与综述

基因组印迹与种子发育

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摘要 胚乳介导营养物质从母体到胚的转运过程, 是开花植物中发生印迹的重要部位。胚乳的发育异常会导致胚的败育。在拟南芥中已鉴定到三个FIS (fertilization-independent seed) 基因, 能制止无需受精即形成种子的发育过程, 即FIS1/ MEDEA、FIS2和FIS3/FIE。其中MEDEA基因是胚乳发育的主要调控基因, 在胚乳中被印迹。FWA基因也在胚乳中被印迹。系统阐述了植物基因组印迹的机理以及MEA和FWA印迹机制的研究进展, 并介绍了印迹发生的亲本冲突学说、印迹的方式及其它已报道的印迹基因。

关键词 [印迹](#); [胚乳](#); [亲源效应](#)

分类号

Genomic Imprinting and Seed Development

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Abstract

The endosperm, a seed tissue that mediates the transfer of nutrients from the maternal parent to the embryo, is an important site of imprinting in flowering plants. In *A. thaliana*, three genes were identified that prevent fertilization-independent seed development: FIS1/MEDEA, FIS2 and FIS3/FIE. MEDEA (MEA), a master regulator of endosperm development, is known to be imprinted in the endosperm. FWA is also imprinted in the endosperm of the model plant *Arabidopsis*. The imprinting mechanism in angiosperms, the latest progress in the control of MEA and FWA imprinting, the parental conflict theory to explain imprinting, the imprinting methods and also other imprinted genes found in plants were reviewed.

Key words [imprinting](#) [endosperm](#) [parental-origin effects](#)

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