

生物技术·植物遗传育种

植物细胞培养技术合成次生代谢物质研究进展

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摘要 利用植物细胞培养技术生产次生代谢产物近年来取得很大进展,但如何增加目的产物产量使该技术实现工业化生产是亟待解决的难题。从筛选高产细胞系、优化培养环境、调节营养水平、前体饲喂、诱导子添加及 β -环糊精使用等方面综述了国内外最新的增产策略。另外毛状根培养、固定化培养和生物转化研究正成为工业化生产次生代谢产物的重要技术来源。

关键词 [次生代谢物](#) [植物细胞培养](#) [毛状根培养](#) [固定化](#) [生物转化](#)

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Research Advances on Synthesis of Secondary Metabolites by Plant Cell Culture

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Abstract

Great advance have been achieved in producing secondary metabolites by plant cell culture. But it is a problem how to enhance production of metabolites of interest and realize industrial production. This review deals with some recently strategies to increase metabolites production, including screening of high growth cell line, optimizing the culture environment, regulating nutrient level, precursor feeding, elicitor adding, using β -Cyclodextrin etc. In addition, hairy root culture, immobilization and biotransformation are promising important sources for the production of high-value secondary metabolites of industrial application.

Key words [secondary metabolites](#) [plant cell culture](#) [hairy root culture](#) [immobilization](#) [biotransformation](#)

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