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细胞色素P450基因及其在植物改良中的应用 Cytochrome P450 Genes and Their Application in Plant Improvement

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摘要 细胞色素P450是一类含血红素的氧化还原酶类，它参与多种生化反应，在防御生物免受病虫害及逆境胁迫等方面具有重要作用。生物基因组序列分析表明，它是一个基因超家族。许多细胞色素P450基因已被鉴定和克隆，并应用于植物遗传改良；在转基因培育多抗性植物、创造植物雄性不育系，提高植物降解化学农药残留等污染物的能力和有效生产具有药用价值的化合物等方面已取得可喜进展，显示出广阔的应用前景。

Abstract:Cytochrome P450s are heme-containing mixed-function oxidases, involving in lots of biochemical reactions. They play an important role in preventing plants from pathogen and insect attacks and environmental stress. Sequence analysis of genomes has revealed that P450 is a gene super-family. Many cytochrome P450s have been characterized and cloned. Some of them have been used in plant genetic improvement. A great progress has been made in using these P450 genes to create the transgenic plants with multiple resistances, male sterility, higher capability to dissolve toxic chemicals and pollutants and effective productivity of high valuable compounds, indicating P450 genes have a broad prospect with great potential application.

关键词 细胞色素P450 基因克隆 转基因植物 Key words cytochrome P450 gene clone transgenic plants

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Abstract

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