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## 甜菜夜蛾雄蛾触角内2个细胞色素P450 cDNA 片段的克隆与组织表达分析

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## Molecular Cloning and Tissue Expression of Two Cytochrome P450 cDNA Fragments in the Antennae of Male *Spodoptera exigua* (Hübner)

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摘要

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**摘要** 采用反转录多聚酶链式反应(RT-PCR)技术, 从甜菜夜蛾*Spodoptera exigua* (Hübner)雄蛾触角内扩增得到2个P450基因cDNA片段CYP4L15和CYP4L16。序列分析表明, 两个片段均具有P450的保守区序列, 并且与几种已知参与气味降解的P450具有较高的同源性。通过RT-PCR方法进行的组织表达谱分析表明, 2个基因在雄蛾触角和足内高量表达, 在头部和胸部低量表达; 此外, CYP4L15在腹部还有少量表达。多组织分布特点暗示两个基因可能担负包括气味降解在内的多种功能。

**关键词:** 甜菜夜蛾 触角 气味降解酶 细胞色素P450 组织表达

**Abstract:** By reverse transcription-polymerase chain reaction (RT-PCR) method, two cDNA fragments of P450 genes CYP4L15 and CYP4L16 were cloned using a pair of degenerate primers. The two fragments had the conserved I-helix and heme-binding domains of P450, and shared high identities with several putative insect odorant-degrading P450s. Further tissue expression analysis of the two genes showed that two genes might function as odorant-degrading enzymes, as they were highly expressed in antennae. However, their low expression in head and thorax for both genes, as well as in abdomen for CYP4L15 suggested that these genes had other functions besides the odorant degradation.

**Keywords:** *Spodoptera exigua* (Hübner) antennae odorant-degrading enzyme (ODE) cytochrome P450 tissue expression

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