

植物保护科学

苏云金芽孢杆菌肠毒素基因entFM的定位与序列分析

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摘要:

摘要: 为确定Bt WB9的entFM基因是位于染色体或位于质粒上, 以及明确entFM基因的特性, 以entFM基因片段制备探针, 通过Southern 杂交, 分别对染色体DNA和质粒DNA进行杂交定位。结果表明, Bt WB9的entFM基因位于染色体上; 克隆了Bt WB9、1072、TS16及Bc6A1 entFM基因ORF序列, 序列分析表明, WB9 entFM基因的ORF序列共有个1281个核苷酸组成, 可编码426个氨基酸。将WB9、TS16、1072 和Bc6A1 entFM基因编码的氨基酸序列与Bc Cx5相应氨基酸序列进行比较, 结果显示WB9、TS16、1072与Bc Cx5之间有很高的相似性, 主要差异在于Bc Cx5的EntFM氨基酸序列在39-42位置多出QTQT (谷氨酰胺-苏氨酸-谷氨酰胺-苏氨酸) 四个氨基酸, 在96-99位置还有SWDK四个氨基酸的差异。

关键词: 关键词: 苏云金杆菌 肠毒素基因; 定位; 序列分析

Localization and characterization of entFM gene of Bacillus thuringiensis

Abstract:

Abstract: The objectives of the study were to determine the location of entFM gene in genome and the characterization of entFM gene sequence. The probe for entFM gene of WB9 was prepared and hybridized with plasmid DNA and chromosomal DNA of WB9 respectively. The result indicated that entFM gene of WB9 is in the chromosome. The ORF of entFM genes in Bt WB9, TS16, 1072 and Bc 6A1 were cloned and sequenced. Sequence analysis showed that entFM gene of WB9 contains 1281 nucleotide acids, encoding 426 amino acids. The predicted amino acid sequences of entFM gene of WB9, TS16, 1072 and 6A1 were compared with Bc Cx5, the result showed that there are high homologous among peptides of WB9, TS16, 1072 and Cx5, the main differences between WB9 and Cx5 are that 4 amino acids (Gln-Thr-Gln-Thr) are deleted between 39th and 42th in WB9 and 4 different amino acids(SWDK) are added between 96th and 99th in Bc Cx5.

Keywords: Key words: Bacillus thuringiensis enterotoxin gene; Localization; sequence analysis

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