

论著

反义核酸抑制抗敌百虫淡色库蚊扩增酯酶mRNA体外翻译的研究

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摘要

目的 用反义核酸抑制抗敌百虫淡色库蚊扩增酯酶mRNA体外翻译。方法 人工合成互补于抗性库蚊酯酶mRNA翻译起始点 18碱基, 与淡色库蚊mRNA退火后加入无细胞翻译体系, 进行体外翻译, 翻译产物用SDS 聚丙烯酰胺凝胶电泳进行分析。结果 6 μmol/LODNs可抑制 50%特异性酯酶翻译量, 20 μmol/LODNs抑制 80%特异性酯酶翻译量。电泳结果显示条带浓度接近敏感蚊虫所表达的酯酶量。结论 针对抗敌百虫淡色库蚊扩增酯酶mRNA翻译起始点的反义核酸在体外能有效地抑制其mRNA的翻译

关键词 [有机磷抗性](#) [酯酶](#) [反义核酸](#) [淡色库蚊](#)

分类号

Inhibition of in vitro Translation of Esterase mRNA of Dipterex-Resistant Mosquito (*Culex pipiens pallens*) by Antisense Nucleic Acids

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Abstract

Objective To examine the inhibitory effect of antisense nucleic acid on the in vitro translation of esterase mRNA from dipterex resistant *Culex pipiens pallens*. Methods 18 mer nucleic acid was synthesized and complementary to the translation initiation site of mRNA of dipterex resistant mosquitoes. The ODNs were annealed to the corresponding mRNA molecules and they were added to rabbit reticulocyte cell free system. The translation products were analyzed by SDS PAGE. After fixing, the gel was exposed to X ray film by autoradiography for analysis of protein synthesis. Results Six μmol/L of ODNs elicited a 50% reduction in specific protein expression, and 20 μmol/L of ODNs inhibited the expression of esterase by 80%. The SDS PAGE showed that the band of reduced amounts of 65 kDa protein for resistant mosquito was almost the same as that for sensitive sample. Conclusion Antisense oligonucleic acids to the esterase mRNA of dipterex resistant mosquito could effectively inhibit its in vitro translation.

Key words [organophosphorus resistance](#) [esterase](#) [antisense nucleic acid](#) [Culex pipiens pallens](#)

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