

论著

通过基因表达谱芯片检测寻找德国小蠊抗药性的相关基因

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摘要:

【摘要】 目的 通过比较德国小蠊野外抗性品系与敏感品系的基因表达差异,以筛选出抗性相关基因。方法根据NCBI数据库公布的德国小蠊所有已知序列信息,设计、合成oligo探针并点制基因芯片,利用该芯片对野外抗性品系与敏感品系德国小蠊进行表达谱检测,筛选与抗性相关的差异表达基因,并用实时定量RT-PCR进行确认。结果 共筛选出差异表达基因5个,其中上调(ratio≥2)基因3个,分别为CYP6K1、alpha-amylose mRNA和aspartic protease precursor;下调(ratio≤0.5)基因2个,即allergen Bla g 6.0101 mRNA和allergen Bla g 8 mRNA。结论 通过自制的德国小蠊基因芯片能够筛选出差异表达基因,其中CYP6K1可能与抗性密切相关。

关键词: 德国小蠊 基因芯片 抗药性

Exploration on resistance-related gene of German cockroaches (*Blattella germanica*) by gene chip

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Abstract:

【Abstract】 Objective To screen resistance-related gene from the susceptible strains and field resistant strains of *Blattella germanica* by comparing their gene expression products. Methods Based on the known *B.germanica* sequence information released by NCBI database, the oligonucleotide probes were designed and synthesized. The oligonucleotide microarray was employed to analyze the expression profile of susceptible and resistant strains and differential expression genes associated with resistance were screened out. The results were confirmed by real time RT-PCR. Results Five differential expression genes were screened out, including three of up-regulated genes (fold change≥2) such as CYP6K1, alpha-amylose mRNA and aspartic protease precursor and two of down-regulated genes (fold change≤0.5) like allergen Bla g 6.0101 mRNA and allergen Bla g 8 mRNA. Conclusion It is possible to screen out differential expression gene by self-made gene chip, and CYP6K1 is perhaps closely related to resistance.

Keywords: *Blattella germanica* Gene chip Resistance

收稿日期 2009-03-10 修回日期 网络版发布日期

DOI:

基金项目:

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