中国寄生虫学与寄生虫病杂志 2010 28 (3): 190-193 ISSN: 1000-7423 CN: 31-1248/R

论著

腺苷脱氨酶、C型凝集素及丝氨酸蛋白酶抑制剂基因在白纹伊蚊唾液腺中的表达

吴家红， 程金芝， 陈璐， 孙宇

贵阳医学院人体寄生虫学教研室，贵阳 550004

收稿日期 修回日期 网络版发布日期 接受日期

摘要

【摘要】 目的 了解腺苷脱氨酶（adenosine deaminase， ADA）基因、 C型凝集素（C-lectin）基因和丝氨酸蛋白酶抑制剂（serine protease inhibitor， serpin）基因在白纹伊蚊唾液腺中的表达情况。 方法 分别制备未吸血雌蚊唾液腺（SG组）和吸血雌蚊唾液腺（BSG组）、雌蚊躯体（无头无唾液腺，C组）和雄蚊组织（无头含唾液腺，M组）的总RNA，采用实时荧光定量RT-PCR技术，以β肌动蛋白（β-actin）基因作为内参，根据GenBank公布的ADA、C-lectin和Serpin基因序列设计特异性引物进行RT-PCR，分析以上基因在不同组织中的表达情况。 结果 与雌蚊躯体和雄蚊组织中相对表达量相比，ADA基因在雌蚊唾液腺中的表达分别提高了545倍和123倍（P＜0.01）；C-lectin基因在雌蚊唾液腺中的表达分别提高了3 929倍和4 973倍（P＜0.01）；Serpin基因在雌蚊唾液腺中的表达分别提高了1 911倍和2 978倍（P＜0.01）。吸血前后雌蚊唾液腺中ADA、C-lectin和Serpin等3个基因的表达差异无统计学意义（P＞0.05）。 结论 ADA在蚊虫组织中均有表达，在雌蚊唾液腺中高表达；C-lectin和serpin基因在雌蚊唾液腺中特异高表达。

关键词 白纹伊蚊；实时荧光定量RT?鄄PCR；腺苷脱氨酶；C型凝集素；丝氨酸蛋白酶抑制剂

分类号

Expression of the Genes of Adenosine Deaminase, C-lectin and Serpin in the Salivary Gland of Aedes albopictus

WU Jia-hong， CHENG Jin-zhi， CHEN Lu， SUN Yu

Department of Parasitology，Guiyang Medical College，Guiyang 550004，China

Abstract

【Abstract】 Objective To express the genes of adenosine deaminase（ADA）, C-lectin and serpin （serine protease inhibitor） in the salivary gland of Aedes albopictus. Methods Total RNA was extracted respectively from salivary glands of unfed （group SG） and engorged adult female Ae. albopictus mosquitoes （group BSG）, female carcasses without head and salivary gland (group C), and male bodies without heads but with salivary glands (group M). After the primers for the genes of ADA, C-lectin and serpin were designed respectively according to the reported Ae. albopictus gene sequences in GenBank, real-time fluorescent quantitative RT-PCR was performed to detect expression level of these genes in different tissues of Ae. albopictus using β-actin as internal reference. Results The mRNA expression level of ADA gene in the salivary glands from unfed adult female mosquitoes （group SG） was 545 and 123 times higher than those of female carcasses without head and salivary gland （group C） and male bodies without heads but with salivary glands （group M） （P＜0.01）. In group SG, C-lectin was 3 929 and 4 973 times higher than that in group C and M （P＜0.01）. High level of mRNA coding for serpin was detected in group SG, being 1 911 and 2 978 times higher than that in group C and M （P＜0.01）. There was no significant difference in ADA, C-lectin and serpin mRNA levels between unfed and engorged salivary glands （P＞0.05）. Conclusion ADA gene can be expressed in various mosquito tissues, but higher in salivary glands. The genes of C-lectin and serpin have been highly expressed specifically in salivary gland of female mosquito.

Key words Aedes albopictus；Real-time fluorescent quantitative RT-PCR；Adenosine deaminase； C-lectin；Serpin

DOI:

通讯作者

作者个人主页	吴家红; 程金芝; 陈璐; 孙宇