

论著

日本血吸虫149个表达序列标签和18个全长cDNA的获取和分析

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摘要

目的从日本血吸虫成虫cDNA文库中分离、鉴定和分析表达基因序列,为日本血吸虫病的防治提供候选疫苗和药物靶点。方法构建日本血吸虫成虫cDNA文库,随机挑取重组阳性克隆进行测序,将获取的表达序列标签(Expressed Sequence Tag, EST)登录GenBank;对某些感兴趣的序列进行步移法测序获取全长cDNA,并进行生物信息学分析和登录。结果随机挑取382个阳性克隆进行测序,获得149个EST,同源性比较发现,部分序列与血吸虫的生活史的不同阶段和不同性别序列有一定的同源性。共获取18个日本血吸虫全长cDNA,大部分为管家基因,其中部分可作为日本血吸虫的候选疫苗分析和药物靶点。结论EST技术有助于快速、经济地获取日本血吸虫表达序列。

关键词 [日本血吸虫](#) [cDNA文库](#) [表达序列标签](#) [基因](#)

分类号

Acquisition and Analysis of 149 ESTs and 18 Novel Genes of *Schistosoma japonicum*

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Abstract

SubjectiveTo acquire and analyze adult stage *Schistosoma japonicum* (Chinese strain) expressed sequence tags and new genes from an adult *S. japonicum* cDNA library, and to search new vaccine candidates and drug targets.MethodsA cDNA library was constructed from adult stage *S. japonicum*. Clones were selected randomly from the cDNA library and were sequenced. ESTs and new genes were acquired after analysis in GenBank databases by BLAST and other programs. All ESTs and new genes were submitted to GenBank and received accession numbers.Results149 ESTs were acquired from a total 382 clones that were randomly selected from the adult *S. japonicum* cDNA library. All ESTs were successfully submitted to the dbEST at Genbank. Some of them were homologous with sequences of male, female, egg, schistosomula, cercaria and miracidia of *S. japonicum*. 18 new genes of adult *S. japonicum* were acquired. Some genes were housekeeping genes and some genes might be interesting as vaccine candidates or drugs targets.ConclusionsThe EST strategy is a rapid, efficient and economical method to acquire ESTs and to discover new genes of adult stage *S. japonicum* from cDNA libraries.

Key words [Schistosoma japonicum](#) [cDNA library](#) [Expressed Sequence Tags \(ESTs\)](#) [Gene](#)

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