生物化学与生物物理进展
Progress in Biochemistry and Biophysics

筛选差异表达基因和蛋白质的方法进展

The Progress of the Methods for Screening Differentially Expressed Genes and Proteins

投稿时间：1999-12-31　　最后修改时间：2000-2-29

稿件编号：20010108

中文关键词：筛选　差异表达基因　差异表达蛋白质

英文关键词：screening　differentially expressed genes　differentially expressed proteins

基金项目：国家自然科学杰出青年基金(39825113)和重点课题(39730430-Ⅱ)资助项目.

作者	单位
王吉村	第四军医大学生物化学与分子生物学教研室，西安 710032
药立波	第四军医大学生物化学与分子生物学教研室，西安 710032
赵忠良	第四军医大学生物化学与分子生物学教研室，西安 710032

中文摘要：

分离和鉴定差异表达基因和蛋白质不仅有助于发现基因和蛋白质的功能,更有助于揭示某些疾病的发生机理.目前筛选差异表达基因的方法主要有差异显示PCR方法(differential display RT-PCR,DDRT-PCR)、消减杂交法(subtractive hybridization,SH)、基因芯片技术(DNA chip technique)和基因表达的系统分析(serial analysis of gene expression,SAGE)等，其中消减杂交法中又先后建立了代表性差异分析技术(representational difference analysis,RDA)、抑制消减杂交法(suppression subtractive hybridization,SSH)和获得全长基因的消减杂交法(full-length-gene-obtainable subtractive hybridization).筛选差异表达蛋白质的方法主要有双向电泳技术(two-dimentional gel electrophoresis)和噬菌体全套抗体库技术(phage display antibody repertoire library technique).这些方法各有特点，各有利弊，研究者可根据自己的需要选择适合于自己的方法.

英文摘要：

Cloning and identification of differentially expressed genes or proteins is helpful not only for finding the functions of genes and proteins, but also for discovery of the mechanism of some diseases. Some methods have been developed for screening differentially expressed genes, such as differential display RT-PCR (DDRT-PCR), subtractive hybridization (SH), DNA chip technique, and serial analysis of gene expression (SAGE). In subtractive hybridization, there have advanced three improved methods which include representational difference analysis (RDA), suppression subtractive hybridization (SSH), and full-length-gene-obtainable subtractive hybridization. For obtaining differentially expressed proteins, scientists have only two choices so far. One is two-dimentional gel electrophoresis. The other is phage display antibody repertoire library technique. Since all of the methods above have their own advantages and disadvantages, they should be used according to different needs.

查看全文　　关闭　　下载PDF阅读器