

基因快速检测仪的自动进样控制系统的研制

田学隆¹、刘国传¹、罗庆慧¹、朱冰莲²、彭承琳¹、万小萍¹

1 重庆大学生物工程学院生物力学与组织工程教育部重点实验室

2 重庆大学通信工程学院

基因检测是遗传工程的重要技术之一,基因检测技术的自动化对遗传工程的研究具有重要意义,而自动进样控制系统是基因快速检测仪的重要组成部分。该系统的硬件部分主要由液位检测电路及其接口电路组成;软件部分主要由Visual C++ 6.0编程对硬件实现其自动控制功能。该系统主要包括:控制清洗通道流程、排除废液流程和进样流程等功能,工作模式可根据人机对话方式设定,并能将扩增反应后的试样自动送到基因检测池中进行检测。系统具有快速、操作方便、智能化程度高、准确性高等特点。

THE DEVELOPMENT OF SAMPLING CONTROL SYSTEM FOR HIGH-SPEED GENE DETECTING

As gene detecting is an important technology of genetic engineering, automation of the technology is of great importance to the study of genetic engineering, Sampling control system is an important part for high-speed gene detecting. The hardware of the system includes liquid detecting circuit and interface circuit. The software performs automatically controlling the flow of channel cleaning, waste liquid cleaning and sampling. The work mode of the sampling control system is based on man-machine conversation, and transmit automatically sample of PCR to the pool for gene detecting. This system has the character of rapidity, feasible to manipulate, high intelligence, and accuracy etc.

关键词

基因快速检测(Gene Detecting); 进样控制系统(Sampling Control System); 人机对话(Man-machine Conversation)