

Jurkat细胞凋亡的实时电旋转芯片检测

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细胞凋亡是当今生物学中最受关注的领域之一。当前细胞凋亡的检测方法一般都需要对细胞进行化学处理，不能实现对凋亡的实时监测。为了研究细胞凋亡过程中细胞膜电容的变化规律，我们采用电旋转芯片测量凋亡细胞的电旋转频谱，进而推算出细胞的膜电容。结果显示，随着时间的增加，凋亡细胞的膜电容逐渐减小。在此基础上提出一种用电旋转芯片测定细胞膜电容的方法来检测细胞凋亡。该方法无需对细胞进行化学处理，便可以实现对细胞凋亡的实时监测，为研究细胞凋亡提供一种新的工具。

Detection of The Apoptosis of Jurkat Cell Using an Electrorotation Chip

The apoptosis of cells is one of the fields which attracts increasing attention in biology today. Usually, the cells are needed to be treated by chemicals to detect apoptosis. It is highly desired to detect apoptosis on a real-time basis. In this study, apoptosis of Jurkat cells was studied using a real-time electrorotation chip. This chip allows the detection of the cell membrane capacitance changes during the course of apoptosis and therefore facilitates the analysis of apoptosis on a real-time basis without involving any chemical treatment.

关键词

细胞凋亡(cell apoptosis); 电旋转芯片(electrorotation chip); 膜电容(membrane capacitance)