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摘要: 微流体芯片技术最初起源于分析化学领域,它采用网络式的通道结构为免疫分析研究提供一个新平台。在微流体芯片通道中,人们利用它所提供的高比表面积来完成免疫反应,这样可大大提高分析速度,改善分析效率并降低样品和试剂消耗。随着微电子及微机械制作技术的不断进步,近年来微流体芯片技术发展迅速,并开始在化学、生命科学及环境科学等领域发挥越来越重要的作用。本文对微流体芯片技术在均相免疫分析和非均相免疫分析中的应用进行综述,介绍用于免疫分析研究的多种微芯片系统并讨论在芯片上进行免疫反应的各种方法。

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The application of microfluidic chip technology in immunoassay

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Abstract: The microfluidic chip technology originated from analytical chemistry. The micro channel network structure provided a novel platform for the research of immunoassay. Immunoreaction can be accomplished based on the larger specific surface area of micro channels, which could not only enhance the assay speed, improve assay efficiency, but also decrease sample and reagent consumption. With the progress of microelectronics and other micro fabrication techniques, the technology of microfluidic chip developed rapidly in recent years, and began to play more and more important roles in the domain of chemistry, life science and environmental science. The applications of homogeneous and heterogeneous immunoassay

microfluidic chip technology are reviewed. In this paper, several microfluidic chip systems used for immunoassay research are introduced, various Immuno reaction methods on chips are discussed as well.

Key words:

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