

论文

用顺序注射系统控制微流控芯片中的Edman降解

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摘要:

用顺序注射系统控制微流控芯片中的Edman降解反应, 提高了Edman降解的自动化程度, 得到蛋白质或多肽N-端氨基酸残基结构的准确信息. 对固体吸附材料的选择、顺序注射程序的设计和优化及影响Edman降解反应的因素进行了讨论. 该控制技术在蛋白质组学的研究中有一定的应用前景.

关键词: Edman降解 顺序注射 微流控芯片 蛋白质测序

Edman Degradation on Microfluidic Chip Operated with a Sequential Injection System

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Abstract:

Edman degradation reaction was carried out on microfluidic chip packed with C_{18} beads as reaction cartridge, which was automatically manipulated by a sequential injection system. The program for sequential injection system, the column material for adsorption of protein or peptide and the temperature for Edman degradation reaction were optimized. The experiment results show that the N-terminal residue of protein or peptide can be obtained by Edman degradation on microfluidic chip with the advantages of faster reaction rate, less consumption of protein or peptide. The reported automatic method would be useful for increasing the confidence level of protein identification.

Keywords: Edman degradation Sequential injection system Microfluidic chip Protein sequencing

收稿日期 2007-12-05 修回日期 1900-01-01 网络版发布日期

DOI:

基金项目:

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