[打印本页] [关闭]

论文

MB-WCX联合SELDI-TOF-MS在胃癌诊断中的应用

刘博学1，**程欢欢**2，**董召刚**3，**王华阳**2，**尹作花**3，**宋庆旭**2

山东大学齐鲁医院 1.医学工程科； 2.临床基础研究所； 3.检验科， 济南 250012

摘要：

目的 研究WCX纳米磁珠联合表面增强激光解析电离化飞行时间质谱(surface-enhanced laser desorption ionization time-of-flight mass spectrometry，SELDI-TOF-MS)对胃癌及其癌前病变诊断的意义。方法 应用纳米磁珠联合SELDI-TOF-MS对26例胃癌、35例癌前病变患者(萎缩性胃炎15例，胃溃疡20例)及30例正常人血清标本进行分析，Swiss蛋白数据库搜索鉴定差异蛋白，建立诊断模型。结果 与健康对照相比较，质荷比为2741.2、7963.6和15904.3的蛋白质分子随病变程度表达上调，质荷比为13732.6的蛋白质在癌前病变组无统计学差异，但在胃癌患者中下调。质荷比2741.2、7963.6、15904.3及13732.6的蛋白质组成的诊断模型可以准确鉴别胃癌与正常对照，敏感性为92.3%，特异性为96.7%。结论 WCX纳米磁珠联合SELDI-TOF-MS是筛选胃癌早期诊断标志物的有效手段，2741.2、7963.6、15904.3及13732.6的蛋白质组成的诊断模型有可能成为潜在的胃癌早期诊断标志物。

关键词： 表面增强激光解析电离化飞行时间质谱; 纳米磁珠; 胃肿瘤; 癌前状态; 诊断

MB-WCX coupled with SELDI-TOF-MS: application to the diagnosis of gastric cancer

LIU Bo-xue1, CHENG Huan-huan2, DONG Zhao-gang3, WANG Hua-yang2, YIN Zuo-hua3, SONG Qing-xu2

1. Department of Medical Engineering, Qilu Hospital of Shandong University, Jinan 250012, China;
2. Institute of Basic Medical Sciences, Qilu Hospital of Shandong University, Jinan 250012, China;
3. Department of Clinical Laboratory, Qilu Hospital of Shandong University, Jinan 250012, China

Abstract:

Objective To explore the validity of MB-WCX coupled with SELDI-TOF-MS on the diagnosis of gastric cancer and its precancerosis. Methods MB-WCX coupled with SELDI-TOF-MS was used to analyze the proteomic profiles of sera from 26 patients with gastric cancer, 20 patients with gastric ulcer, 15 patients with atrophic gastritis, and 30 healthy individuals. The differentially expressed proteins were examined by comparing to the Swiss protein database, according to their molecular weights and isoelectric points. Results Three proteins at 2741.2, 7963.6 and 15904.3m/z were up-regulated in patients with gastric cancer or precancerosis, relative to healthy individuals. A fourth one at 13732.6m/z was down-regulated in patients with gastric cancer, but showed little difference between precancerosis and healthy conditions. These four proteins, in combination, can be used to detect gastric cancer, with a sensitivity of 92.3%, and a specificity of 96.7%. Conclusion MB-WCX coupled with SELDI-TOF-MS is an effective means to screen for biomarkers. The four low molecular weight serum proteins can be hopeful biomarkers for gastric cancer.

Keywords: Surface-enhanced laser desorption ionization time-of-flight mass spectrometry; weak cation exchange magnetic beads; Gastric cancer; Precancerous conditions; Diagnosis

通讯作者：

作者简介：刘博学(1954-)，男，本科，主管技师，主要从事医学工程学研究。

作者Email：

扩展功能

本文信息

- Supporting info
- PDF(853KB)
- [HTML全文]
- 参考文献[PDF]
- 参考文献

服务与反馈

- 把本文推荐给朋友
- 加入我的书架
- 加入引用管理器
- 引用本文
- Email Alert
- 文章反馈
- 浏览反馈信息

本文关键词相关文章

表面增强激光解析电离化飞行时间质谱; 纳米磁珠; 胃肿瘤; 癌前状态; 诊断

本文作者相关文章

PubMed

参考文献：

本刊中的类似文章

参考文献：

本刊中的类似文章