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专栏

蛋白质组学方法识别nm23-H1为鼻咽癌的转移抑制蛋白和预后因子

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摘要:

目的:筛选鼻咽癌(NPC)转移相关蛋白质,为鼻咽癌防治提供科学依据。**方法**:采用二维电泳和质谱技术筛选不同转移潜能鼻咽癌细胞系(5-8F和6-10B)的差异表达蛋白质,并应用Western 印迹对部分差异蛋白质进行验证;使用siRNA抑制差异蛋白质nm23-H1的表达,分析nm23-H1表达水平对鼻咽癌细胞体外侵袭能力的影响; 应用免疫组织化学染色分析nm23-H1表达水平与鼻咽癌临床病理特征和预后的关系。**结果**:在不同转移潜能鼻咽癌细胞系中鉴定了15个差异表达的蛋白质,并选择性证实3个差异蛋白质;siRNA下调nm23-H1的表达能增强6-10B鼻咽癌细胞的体外侵袭能力;淋巴结转移鼻咽癌组织中nm23-H1的水平显著低于原发性鼻咽癌;nm23-H1的表达水平与鼻咽癌淋巴结和远处转移、临床分期和复发正相关;生存分析显示nm23-H1低表达的鼻咽癌患者预后差;多因素分析显示:nm23-H1表达水平是鼻咽癌患者独立的预后因子。**结论**:nm23-H1是鼻咽癌的转移抑制蛋白和预后因子。

关键词: 鼻咽癌 蛋白质组学 nm23-H1 转移 预后

Identification of nm23-H1 as a metastatic suppressor and prognostic factor in nasopharyngeal carcinoma by proteomic analysis

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Abstract:

Objective: To identify proteins associated with nasopharyngeal carcinoma (NPC) metastasis, and provide scientific basis for the prevention and cure of NPC. Methods: A two-dimensional gel electrophoresis and mass spectrometry were performed to screen for differential proteins between highly metastatic 5-8F and non-metastatic 6-10B NPC cell lines. Western blot was used to confirm the differential proteins. We siRNA used to inhibit the expression of differential protein nm23-H1 to determine the association of nm23-H1 with NPC in vitro invasive ability. Immunohistochemistry and statistics were used to evaluate the correlation of nm23-H1 expression with clinicopathological features and clinical outcomes in paraffin-embedded archival tissues including 93 cases of primary NPC and 20 cases of cervical lymphonode metastatic NPC (LMNPC). Results: A total of 15 differential proteins in the 2 cell lines were identified by a proteomic approach, and 3 differential proteins were selectively confirmed. Downregulation of nm23-H1 by siRNA significantly increased the in vitro invasive ability of 6-10B. Significant nm23-H1 downregulation was observed in LMNPC compared with primary NPC. nm23-H1 downregulation in primary NPC was positively correlated with lymphonode and distant metastasis, advanced clinical stage and recurrence. Survival curves showed that patients with nm23-H1 downregulation in primary NPC had a poor prognosis. Multivariate analysis confirmed that nm23-H1 expression level in primary NPC was an independent prognostic indicator. Conclusion: nm23-H1 behaves as a metastasis suppressor in NPC, and nm23-H1 downregulation in the is a biomarker for poor NPC prognosis.

Keywords: nasopharyngeal carcinoma proteomics nm23-H1 metastasis prognosis

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