山东大学学报(医学版) 2013, 51(10) 29-32 DOI: ISSN: 1671-7554 CN: 37-1390/R

基础医学

NOV基因与Ki-67、VEGF、p27和COX-2在肾透明细胞癌中的相关性

解放，刘帅，刘征，牛志宏

山东大学附属省立医院泌尿外科， 济南 250021

摘要：

目的 研究肾母细胞瘤过表达基因(NOV/CCN3)在肾透明细胞癌（ccRCC）中与增殖细胞核抗原Ki-67、血管内皮生长因子(VEGF)、细胞周期依赖性激酶抑制因子p27、环氧合酶2(COX-2)的相关性。方法 用过表达NOV质粒pEGFP-C1-NOV转染人肾透明细胞癌细胞株786-O, 实时定量PCR（RT-PCR）技术测定转染了过表达NOV质粒的细胞(实验组)、转染了空载体的细胞（空载组）及未行质粒转染的786-O细胞（空白组）中Ki-67、p27、VEGF和COX-2 mRNA表达的差异。应用免疫组化染色法对组织芯片行NOV及Ki-67、VEGF、p27、COX-2染色，得到量化资料并行相关性分析。结果 RT-PCR结果显示，实验组细胞与空白组细胞比较NOV mRNA水平增高(P<0.05)，同时Ki-67、VEGF在mRNA水平降低(P<0.05)，p27、COX-2 mRNA水平显著升高(P<0.05)。空白组与空载组相比较均无明显差异。免疫组化染色结果显示，肾透明细胞癌组织中NOV的表达与Ki-67、VEGF的表达呈负相关（r分别为-0.686、-0.646，P＜0.05），而与p27、COX-2的表达呈正相关（r分别为0.491、0.762，P<0.05)。结论 NOV在肾透明细胞癌中对增殖和进展的作用可能与影响Ki-67、VEGF、p27、COX-2的表达相关。

关键词： 肾透明细胞癌；NOV基因；Ki-67；血管内皮生长因子；p27；环氧合酶2

NOV modulates expression of Ki-67,VEGF，p27 and COX-2 in renal clear cell carcinoma

XIE Fang, LIU Shuai, LIU Zheng, NIU Zhi-hong

Department of Urology, Shandong Provincial Hospital Affiliated to Shandong University, Jinan 250021, China

Abstract:

Objective To research the correlation between nephroblastoma overexpressed gene(NOV/CCN3) and vascular endothelial growth factor（VEGF），cyclin-dependent kinase inhibitor p27，cell proliferating antigen Ki-67, cyclooxygenase-2（COX-2）expression in renal clear cell carcinoma (ccRCC). Methods The NOV expressed plasmid (pEGFP-C1-NOV) was constructed and transfected into ccRCC cell line 786-O. The mRNA levels of VEGF， p27， Ki-67, COX-2, and NOV were tested via RT-PCR in 786-O group, 786-O-empty vector group and 786-O-NOV group. Immunohistochemistry of NOV, Ki-67, VEGF, p27and COX-2 was performed on tissue microarrays (TMA) and immunohistochemistry staining intensities were analyzed. Results NOV mRNA expression of 786-O-NOV group was higher compared with the other two groups, while there was no significant difference between another two groups. The 786-O-NOV cells expressed more p27, COX-2 and less Ki67, VEGF compared with the other two groups(P<0.05). By immunohistochemistry the expression of NOV was negatively related to the expressions of Ki67 and VEGF(the correlation coefficients were -0.686 and -0.646， respectively, P＜0.05), while positively to the expressions of p27 and COX-2 (the correlation coefficients were 0.491 and 0.762，respectively, P<0.05). Conclusion NOV could influence the proliferation and invasion of tumor cells in ccRCC. The mechanism may be associated with its influence on the expressions of Ki-67， VEGF， p27 and COX-2.

Keywords: Clear cell renal cell carcinoma; Nephroblastoma overexpressed gene; Ki-67; Vascular endothelial growth factor; p27; Cyclooxygenase-2

收稿日期 2013-05-04 修回日期 网络版发布日期

DOI:

基金项目:

山东省自然科学基金（Y2007C067）

通讯作者: 牛志宏，E-mail：nzh1789@163.com

作者简介:

作者Email:

参考文献：

本刊中的类似文章