

FOXO1在肾癌组织和细胞中的表达及临床意义

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Title: Expression and clinical value of FOXO1 in renal cell carcinoma tissues and cells

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摘要: 目的:探讨FOXO1在肾癌组织和细胞中的表达及其与肾癌发生发展的关系。方法:实时定量PCR和Western blot检测肾癌细胞中FOXO1 mRNA和蛋白的表达情况;免疫组化方法检测肾癌组织中FOXO1蛋白的表达;应用针对人FOXO1基因的小干扰RNA在体外转染769-P细胞;CCK8检测细胞增殖情况。结果:免疫组化结果显示透明细胞肾癌和乳头状细胞肾癌FOXO1的阳性率低于嫌色细胞肾癌 ($P < 0.05$);FOXO1蛋白的表达与透明细胞肾癌的分期、分级有关 ($P < 0.05$);769-P细胞FOXO1 mRNA和蛋白表达水平高于786-O和Caki-1细胞;利用特异性的siRNA抑制FOXO1 mRNA和蛋白表达后,发现769-P细胞的增殖加快。结论:FOXO1表达下降与肾癌的分型和透明细胞肾癌的分期、分级有关,FOXO1可作为肾癌诊断和预后的标志物及治疗的靶点。

Abstract: Objective: To study FOXO1 in renal cell carcinoma (RCC) tissues and renal cell carcinoma cell lines and its relation with renal carcinogenesis. Methods: The expression levels of FOXO1 transcripts and protein in renal cell carcinoma cell lines were examined by quantitative Real-time PCR and Western blot. Immunohistochemistry was used to examine FOXO1 protein in renal cell carcinoma tissues. 769-P cells were transfected with small interference RNA against human FOXO1 gene. CCK8 assay was used to estimate the cell growth. Results: The FOXO1 protein positive rates in clear cell RCC (ccRCC) and papillary RCC (pRCC) were lower than chromophobe RCC (chRCC) ($P < 0.05$). The expression levels of FOXO1 mRNA and protein in 769-P cells were higher than those in 786-O and Caki-1 cells. After inhibiting the expression levels of FOXO1 mRNA and protein using specific siRNA, the growth of 769-P cells was increased. Conclusion: The decreased expression of FOXO1 had correlated not only with the subtypes of RCC but also with the stage and grade of ccRCC. FOXO1 may become a diagnostic and prognostic marker and a new target to therapy the renal cell carcinoma.

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