下调TPX2抑制喉癌细胞生长的体外实验研究

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Title: Down regulation of TPX2 inhibits growth of laryngeal carcinoma cells in vitro

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摘要: 目的:研究TPX2对喉癌细胞增殖、克隆形成能力及细胞周期的影响。方法:Hep-2细胞中转染TPX2 siRNA、siRNA control记为TPX2 siRNA、siRNA -NC组，以不做转染的细胞为Con组。荧光定量PCR和Western blot分别测定细胞中TPX2 mRNA和蛋白水平，MTT测定各组细胞增殖，平板克隆实验测定各组细胞克隆形成能力，流式细胞术测定各组细胞周期情况，Western blot测定各组细胞中增殖细胞核抗原（PCNA）、细胞核增殖抗原(Ki-67)、细胞周期依赖性蛋白激酶4(CDK4)、细胞周期蛋白D1（Cyclin D1）蛋白水平。结果:siRNA control中TPX2 mRNA和蛋白水平、细胞存活率、克隆形成数目、细胞周期以及细胞中PCNA、Ki-67、CDK4、Cyclin D1蛋白水平与Con相比均没有明显变化（$P>0.05$）。TPX2 siRNA细胞中TPX2 mRNA和蛋白水平均明显低于Con（$P<0.05$）。TPX2 siRNA细胞存活率、克隆形成数目均明显低于Con，细胞G0/G1期比例明显高于Con，细胞中PCNA、Ki-67、CDK4、Cyclin D1蛋白水平明显低于Con（$P<0.05$）。结论:TPX2敲低可以降低喉癌细胞增殖、克隆形成能力，将细胞周期阻滞在G0/G1期，降低细胞中PCNA、Ki-67、CDK4、Cyclin D1蛋白表达。

Abstract: Objective:To study the effect of TPX2 on proliferation,clone formation and cell cycle of larynx cancer cells.Methods:The transfection of TPX2 siRNA and siRNA control in Hep-2 cells was recorded as TPX2 siRNA and siRNA-NC,and the cells that were not transfected were as Con.The levels of TPX2 mRNA and protein in cells were measured by fluorescence quantitative PCR and Western blot,respectively.MTT was used to determine the proliferation of cells in each group.The clone assay was used to determine the cell clone formation ability of each group.The cell cycle of each group was measured by flow cytometry.PCNA,Ki-67,CDK4 and Cyclin D1 in each group of cells were measured by Western blot.Results:There was no significant change in TPX2 mRNA and protein level,cell survival rate,colony formation number,cell cycle and PCNA,Ki-67,CDK4 and Cyclin D1 protein levels in siRNA control and Con($P>0.05$).The levels of TPX2 mRNA and protein in TPX2 siRNA cells were significantly lower than that of Con ($P<0.05$).The survival rate of TPX2 siRNA cells and the number of clones were significantly lower than that of Con.And the proportion of G0/G1 phase in cell was significantly higher than that of Con,the level of PCNA,Ki-67,CDK4 and Cyclin D1 protein in the cells were significantly lower than that of Con ($P<0.05$).Conclusion:TPX2 knockdown can reduce the proliferation and clone forming ability of laryngeal carcinoma cells,block cell cycle at G0/G1 phase,and reduce the expression of PCNA,Ki-67,CDK4 and Cyclin D1.

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备注/Memo: -

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