[1]傅莉媛,熊刚,李娟,等.MTF-1对食管鳞癌EC109细胞株生长和迁移的影响[J].第三军医大学学报,2014,36(08):750-754.

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Title: Effects of MTF-1 on cell proliferation and migration in human esophageal carcinoma EC109 cells

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关键词: 金属反应转录因子1; 食管鳞癌; 细胞增殖; 细胞迁移

Keywords: metal-responsive transcription factor-1; esophageal neoplasms; cell proliferation; migration

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摘要: 目的 研究外源性金属反应转录因子-1（metal-responsive transcription factor-1, MTF-1）对食管鳞癌EC109细胞的增殖、凋亡、迁移及细胞周期的影响，并探讨其作用机制。 方法 构建MTF-1真核表达载体pcDNA3.1-MTF-1，转染EC109细胞，采用RT-PCR和Western blot分别检测MTF-1 mRNA和蛋白水平的表达。采用CCK-8法检测细胞生长，流式细胞仪检测细胞凋亡和周期，Transwell实验检测细胞迁移能力。 结果 与转染pcDNA3.1的对照组相比，转染pcDNA3.1-MTF-1显著上调了EC109细胞中MTF-1表达量。过表达MTF-1 48 h后，EC109细胞生长显著加快（$P<0.01$）；细胞凋亡率降低（$P<0.05$）；细胞周期比例发生显著改变，G_1期细胞比例降低（$P<0.01$），S期细胞比例升高（$P<0.01$）；细胞迁移能力无显著改变。 结论 MTF-1通过抑制细胞凋亡、促进细胞周期G_1到S期的转换进而促进食管鳞癌EC109细胞的生长，但对EC109的迁移能力没有显著影响。

Abstract: Objective To determine the effects of exogenous metal-responsive transcription factor-1 (MTF-1) on the cell proliferation, apoptosis, cell cycle and migration in human esophageal carcinoma EC109 cells. Methods The CDS fragment of MTF-1 was cloned into the pCDNA3.1 vector to construct recombinant vector pcDNA3.1-MTF-1. And then pcDNA3.1-MTF-1 and pcDNA3.1 (control) were transferred into EC109 cells separately. The mRNA and protein expression levels of MTF-1 were detected by RT-PCR and Western blotting. CCK8

assay was used to detect the effect of MTF-1 overexpression on EC109 cell proliferation and the effects on apoptosis and cell cycle were analyzed by flow cytometry. Transwell chamber assay was used to examine the migration potential of the EC109 cells. Results Compared with pcDNA3.1 group, pcDNA3.1-MTF-1 group expressed high-level exogenous MTF-1 and the proliferation of EC109 cells were significantly increased in 48 to 96 h (P<0.01). After pcDNA3.1-MTF-1 transfection for 48 h, apoptosis of EC109 cells was significantly inhibited (P<0.05). Meanwhile, the percentage of EC109 cells in G_1 phase was decreased (P<0.01) and that in S phase was increased significantly (P<0.01) as compared to the control group. The cell migration abilities didn’ t show significant difference between the 2 groups. Conclusion Exogenous MTF-1 stimulates the proliferation of EC109 cells by inhibiting apoptosis and promoting G_1/S transition, while does not affect migration of EC109 cells obviously.

参考文献/REFERENCES:

傅莉媛, 熊刚, 李娟, 等. MTF-1对食管鳞癌EC109细胞株生长和迁移的影响[J].第三军医大学学报,2014,36(8):750-754.

相似文献/REFERENCES:

[1]汪斌,李俊材,傅仲学,等.运用激光捕获显微切割对食管鳞状上皮癌蛋白质组的分析[J].第三军医大学学报,2007,29(19):1869.
WANG Bin,LI Jun-cai,FU Zhong-xue,et al.Proteomic analysis of esophageal squamous cell carcinoma by laser capture microdissection[J].J Third Mil Med Univ,2007,29(08):1869.
[2]赵劲松,廖克龙.MIF在食管鳞癌组织和癌旁组织中的表达[J].第三军医大学学报,2007,29(08):740.
ZHAO Jin-song,LIAO Ke-long.Expression of macrophage migration inhibitory factor in esophageal squamous cell carcinoma and normal esophageal tissue[J].J Third Mil Med Univ,2007,29(08):740.
[3]汪斌,李俊材,傅仲学,等.食管鳞癌转移淋巴结蛋白质双向凝胶电泳图谱差异分析[J].第三军医大学学报,2007,29(04):354.
WANG Bin,LI Jun-cai,FU Zhong-xu,et al.Proteomic analysis of lymph nodes affected by esophageal squamous cell carcinoma by two-dimensional gel electrophoresis[J].J Third Mil Med Univ,2007,29(08):354.
[4]石菲,彭贵勇,孙永刚,等.Galectin-3 在食管鳞癌中的表达及其临床意义[J].第三军医大学学报,2008,30(11):1062.
SHI Fei,PENG Gui-yong,SUN Yong-gang,et al.Association of galectin-3 expression with biological behaviors of squamous carcinoma of esophagus[J].J Third Mil Med Univ,2008,30(08):1062.
[5]臧文巧,轩小燕,杜英,等.靶向CXCR4的siRNA对人食管鳞癌EC9706细胞裸鼠移植瘤生长的抑制作用[J].第三军医大学学报,2009,31(21):2140.
ZANG Wen-qiao,XUAN Xiao-yan,DU Ying,et al.CXCR4 siRNA inhibits growth of human esophageal squamous carcinoma EC-9706 cell xenograft in nude mice[J].J Third Mil Med Univ,2009,31(08):2140.
[6]王新杰,郑玉玲,樊青霞.RAS通路和cyclinD1在食管鳞癌组织中活化表达[J].第三军医大学学报,2011,33(24):2626.
[7]朱允和,向小勇,陈力,等.转录因子FoxO1在食管鳞癌组织中的表达及其临床意义[J].第三军医大学学报,2012,34(07):662.
Zhu Yunhe,Xiang Xiaoyong,Chen Li,et al.Expression and clinical significance of transcription factor FoxO1 in human esophageal squamous carcinoma[J].J Third Mil Med Univ,2012,34(08):662.
[8]于妍妍,雷增杰,郭严,等.赖氨酸特异性去甲基化酶1在食管鳞癌中的表达及其临床意义[J].第三军医大学学报,2013,35(09):910.
Yu Yanyan,Lei Zengjie,Guo Yan,et al.Expression and clinical significance of lysine specific demethylase 1 in human esophageal squamous cell carcinoma[J].J Third Mil Med Univ,2013,35(08):910.
[9]臧春宝,万跃,王勇,等.AG490对食管鳞癌Eca-109细胞增殖、凋亡及放疗敏感性的影响[J].第三军医大学学报,2013,35(13):1357.
Zang Chunbao,Wan Yue,Wang Yong,et al.Effect of Janus kinase inhibitor AG490 on proliferation, apoptosis and radiosensitivity of human esophageal carcinoma Eca-109 cells[J].J Third Mil Med Univ,2013,35(08):1357.
[10]张曼,杨涛,李启英,等.食管T细胞淋巴瘤合并食管鳞癌1例[J].第三军医大学学报,2013,35(23):2585.

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