长链非编码RNA CASC9在胃癌化疗耐药中的机制研究

《现代肿瘤医学》[ISSN:1672-4992/CN:61-1415/R] 期数: 2020年02期 页码: 195-200 栏目: 论著（基础研究） 出版日期: 2019-12-08

Title: **Effects of lncRNA CASC9 on proliferation,apoptosis and 5-FU chemotherapy-resistant of gastric cancer cells**

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关键词: 胃癌; 长链非编码RNA CASC9; P-gp; 增殖; 凋亡; 化疗耐药

Keywords: gastric cancer; long non-coding RNA CASC9; P-gp; proliferation; apoptosis; chemotherapy-resistant

分类号: R735.2

DOI: 10.3969/j.issn.1672-4992.2020.02.004

文献标识码: A

摘要: 目的：观察长链非编码RNA CASC9对胃癌（gastric cancer,GC）细胞增殖、凋亡以及对5-氟尿嘧啶（5-FU）化疗耐药的影响，并探讨其机制。方法：首先采用实时荧光聚合酶链反应法(real-time polymerase chain reaction,RT-PCR)检测永生化胃上皮细胞(GSE-1)和GC细胞(SGC-7901、BGC-823)中CASC9和P-gp的表达水平；在胃癌细胞SGC-7901和BGC-823中抑制CASC9表达后，通过RT-PCR检测P-gp的表达水平；在胃癌细胞SGC-7901中抑制CASC9表达后，再过表达P-gp，应用CCK-8法检测转染后各组光密度值以评价增殖率，应用Annexin V-APC单染色流式细胞术检测各组转染48 h后的细胞凋亡率，在培养基中加入不同浓度的5-FU检测各组细胞存活率。结果：与正常胃黏膜细胞相比，GC细胞中CASC9、P-gp过表达(P < 0.05)；抑制CASC9表达后胃癌细胞中P-gp表达下调(P < 0.05)；胃癌细胞抑制CASC9表达后细胞增殖转移能力明显减弱（P < 0.05），凋亡增加（P < 0.05），化疗耐药减弱（P < 0.05）；而过表达P-gp后恶性表型明显恢复（P < 0.05）。结论：CASC9可通过促进P-gp的表达调节GC细胞的增殖、凋亡和化疗耐药，参与GC的发生发展。

Abstract: Objective:To research the role and mechanism of lncRNA CASC9 in proliferation,apoptosis and 5-FU chemotherapy-resistant of gastric cancer (GC) cells. Methods: The expression of CASC9 and P-gp in normal gastric mucosa cells (GSE-1) and GC cells (SGC-7901 and BGC-823) was detected by real-time fluorescent quantitative PCR.The expression of P-gp in SGC-7901 and BGC-823 cells after knockdown CASC9 was examined by RT-PCR.The changes in abilities of proliferation in GC cells after knockdown CASC9 and overexpressed P-gp were examined by CCK-8.Annexin V-APC staining was used to detect the apoptotic rates of each group at 48 h after transfection. Cell viability was detected after transfection and culture with 5-FU.Results: The expression levels of CASC9 and P-gp in GC cells were significantly increased as compared with those in normal gastric mucosa cells (P < 0.05 for both).Transfection with si-CASC9 down-regulated P-gp expression (P < 0.05).In GC cells,the abilities of proliferation and 5-FU chemotherapy-resistant were significantly reduced and apoptosis was increased after knockdown CASC9 (P < 0.05).And the overexpression of P-gp can reversed this phenomenon (P < 0.05).Conclusion: CASC9 can regulate the proliferation,apoptosis and 5-FU chemotherapy-resistant of GC cells by promoting the expression of P-gp,and adjust the occurrence and development of GC.

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备注/Memo: 辽宁省科学技术计划项目（编号：201601122）

更新日期/Last Update: 2019-11-29