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RNAi沉默 RON 基因对人结肠癌HT-29细胞侵袭和耐药性的抑制作用 [点此下载全文](#)

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摘要:

目的: 探讨RNAi沉默酪氨酸激酶受体 RON (recepteur d' origine nantais) 基因对人结肠癌HT-29细胞侵袭和对抗肿瘤药物敏感性的影响。方法: 构建 RON 基因的RNAi慢病毒载体Lv-RON-siRNA。Real-time PCR和Western blotting检测 RON 基因的沉默效率及RON蛋白表达水平; Transwell侵袭实验和ATP-TCA (ATP-tumor chemosensitivity assay) 检测 RON 基因对HT-29细胞侵袭和对药物敏感性的影响。结果: 慢病毒载体Lv-RON-siRNA感染HT-29细胞对 RON 基因的沉默效果达到70%。Lv-RON-siRNA感染后, HT-29细胞侵袭力较对照组明显降低 ( $0.97 \pm 0.072$  vs  $1.29 \pm 0.076$ ,  $P < 0.05$ )。Lv-RON-siRNA 感染后, HT-29细胞对5-氟尿嘧啶(5-fluorouraci, 5-FU)的IC<sub>90</sub>值和IC<sub>50</sub>值分别为( $14.28 \pm 1.34$ )、( $8.93 \pm 1.20$ )  $\mu\text{g/ml}$ , 顺铂 (cisplatin, DDP)的IC<sub>90</sub>值和IC<sub>50</sub>值分别为( $1.91 \pm 0.22$ )、( $0.64 \pm 0.07$ )  $\mu\text{g/ml}$ , 均明显低于对照组 ( $P < 0.01$ )。结论: 沉默 RON 基因表达能抑制HT-29细胞的侵袭力, 提高细胞对5-FU和DDP的敏感性

关键词: [RON 基因](#) [HT-29细胞](#) [RNAi](#) [侵袭](#) [耐药](#)

Silencing RON gene expression via RNA interference inhibits human colon carcinoma HT-29 cell invasion and drug resistance [Download Fulltext](#)

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Abstract:

Objective : To investigate the effect of receptor tyrosine kinase recepteur d' origine nantais ( RON ) gene silencing on the invasion and anticancer drug resistance of human colon carcinoma HT-29 cells. Methods: RNAi lentiviral vector targeting RON gene (Lv-RON-siRNA) was constructed. The efficiency of Lv-RON-siRNA on RON gene silence and RON protein level in HT-29 cells were detected by real-time PCR and Western blotting, respectively. The effects of Lv-RON-siRNA on invasion and drug resistance of HT-29 cells were observed by Transwell assay and ATP-TCA (ATP-tumor chemosensitivity assay). Results: The silencing effect of Lv-RON-siRNA on RON gene expression in HT-29 cells reached 70%. Compared with the control group, the invasion of HT-29 cells in Lv-RON-siRNA infection group was decreased ( $0.97 \pm 0.07$  vs  $1.29 \pm 0.08$ ,  $P < 0.05$ ). The values of IC<sub>90</sub> and IC<sub>50</sub> of HT-29 cells infected with Lv-RON-siRNA to 5-FU were ( $14.28 \pm 1.34$ )  $\mu\text{g/ml}$  and ( $8.93 \pm 1.2$ )  $\mu\text{g/ml}$ , respectively. The IC<sub>90</sub> and IC<sub>50</sub> of HT-29 cells infected with Lv-RON-siRNA to cisplatin (DDP) were ( $1.91 \pm 0.22$ )  $\mu\text{g/ml}$  and ( $0.64 \pm 0.07$ )  $\mu\text{g/ml}$ , respectively, and were significantly lower than those in the control group ( $P < 0.01$ ). Conclusion: Silencing RON gene expression can decrease the invasion ability of HT-29 cells and increase the sensitivity of HT-29 cells to 5-FU and DDP.

Keywords: [RON gene](#) [HT-29 cell](#) [RNAi](#) [invasion](#) [drug resistance](#)

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