

# miR-637抑制结肠癌HCT116细胞生长和迁移的机制研究

《现代肿瘤医学》[ISSN:1672-4992/CN:61-1415/R] 期数: 2019年08期 页码: 1299-1303 栏目: 论著(基础研究) 出版日期: 2019-03-08

**Title:** Mechanism research of inhibiting the growth and migration of colon cancer HCT116 cells by miR-637

**作者:** 魏 房; 王墨飞; 周 勇  
中国医科大学附属第四医院普通外科, 辽宁 沈阳 110032

**Author(s):** Wei Fang; Wang Mofei; Zhou Yong  
Department of General Surgery, the Fourth Affiliated Hospital of China Medical University, Liaoning Shenyang 110032, China.

**关键词:** miR-637; 结肠癌; 增殖; 凋亡; 迁移

**Keywords:** miR-637; colon cancer; proliferation; apoptosis; migration

**分类号:** R735.3+5

**DOI:** 10.3969/j.issn.1672-4992.2019.08.005

**文献标识码:** A

**摘要:** 目的:分析miR-637对结肠癌HCT116细胞生长和迁移的影响。方法:分别构建miR-637过表达或者低表达的结肠癌HCT116细胞系。通过MTT方法检测miR-637对细胞增殖的作用, PI (propidium iodide) 染色检测miR-637对细胞周期的影响, Annexin V-FITC/PI染色检测miR-637对细胞凋亡的作用。Western blot检测miR-637对细胞中CDK4和Bcl-2的影响。Transwell实验检测miR-637对细胞迁移的作用, 进一步通过Western blot检测miR-637对细胞中MMP2的影响。结果:miR-637抑制HCT116细胞的增殖, 抑制G1/S期进程, 促进细胞凋亡, Western blot结果显示, miR-637抑制CDK4和Bcl-2在HCT116细胞中的表达。Transwell实验指出, miR-637抑制细胞的迁移, Western blot结果指出miR-637抑制MMP2在HCT116细胞中的表达。结论: miR-637可以通过抑制CDK4、Bcl-2和MMP2的表达抑制HCT116细胞的生长和迁移。

**Abstract:** Objective: To analyze the effect of miR-637 on the growth and migration of HCT116 cells. Methods: The HCT116 cell lines with overexpressed or low expression of miR-637 were constructed respectively. MTT was used to detect the effect of miR-637 on cell proliferation. PI (propidium iodide) staining was used to detect the effect of miR-637 on cell cycle. Annexin V-FITC/PI staining was used to detect the effect of miR-637 on apoptosis. The effects of miR-637 on CDK4 and Bcl-2 in cells were detected by Western blot. The effect of miR-637 on cell migration was detected by Transwell, and the effect of miR-637 on the MMP2 in cells was detected by Western blot. Results: miR-637 can inhibit the proliferation of HCT116 cells, inhibit G1/S phase progression, and promote cell apoptosis. Western blot results showed that miR-637 inhibited CDK4 and Bcl-2 expression in HCT116 cells. Transwell experiments showed that miR-637 inhibited cell migration. Western blot results showed that miR-637 inhibited MMP2 expression in HCT116 cells. Conclusion: miR-637 inhibited the growth and migration of HCT116 cells by inhibiting the expression of CDK4, Bcl-2 and MMP2.

## 参考文献/REFERENCES

- [1] Li B, Shi C, Zhao J, et al. Long noncoding RNA CCAT1 functions as a ceRNA to antagonize the effect of miR-410 on the down-regulation of ITPKB in human HCT-116 and HCT-8 cells [J]. *Oncotarget*, 2017, 8(54):92855-92863.
- [2] Zhang D, Liu E, Kang J, et al. MiR-3613-3p affects cell proliferation and cell cycle in hepatocellular carcinoma [J]. *Oncotarget*, 2017, 8(54):93014-93028.
- [3] Xu XW, Zheng BA, Hu ZM, et al. Circular RNA hsa\_circ\_000984 promotes colon cancer growth and metastasis by sponging miR-106b [J]. *Oncotarget*, 2017, 8(53):91674-91683.
- [4] Stachowiak M, Flisikowska T, Bauersachs S, et al. Altered microRNA profiles during early colon adenoma progression in a porcine model of familial adenomatous polyposis [J]. *Oncotarget*, 2017, 8(56):96154-96160.
- [5] Guo L, Peng Y, Meng Y, et al. Expression profiles analysis reveals an integrated miRNA-lncRNA signature to predict survival in ovarian cancer patients with wild-type BRCA1/2 [J]. *Oncotarget*, 2017, 8(40):68483-68492.

- [6] Pashaei E,Pashaei E,Ahmady M,et al.Meta-analysis of miRNA expression profiles for prostate cancer recurrence following radical prostatectomy [J] .PLoS One,2017,12(6):e0179543.
- [7] Kim Y,Noren Hooten N.Posttranscriptional regulation of the inflammatory marker C-reactive protein by the RNA-binding protein HuR and microRNA637 [J] .Mol Cell Biol,2015,35(24):4212-4221.
- [8] Que T,Song Y,Liu Z,et al.Decreased miRNA-637 is an unfavorable prognosis marker and promotes glioma cell growth,migration and invasion via direct targeting Akt1 [J] .Oncogene,2015,34(38):4952-4963.
- [9] Li J,Li B,Ren C,et al.The clinical significance of circulating GPC1 positive exosomes and its regulative miRNAs in colon cancer patients [J] .Oncotarget,2017,8(60):101189-101202.
- [10] Hua FF,Liu SS,Zhu LH,et al.MiRNA-338-3p regulates cervical cancer cells proliferation by targeting MACC1 through MAPK signaling pathway [J] .Eur Rev Med Pharmacol Sci,2017,21(23):5342-5352.
- [11] Stokowy T,Wojtas B,Fujarewicz K,et al.miRNAs with the potential to distinguish follicular thyroid carcinomas from benign follicular thyroid tumors:results of a meta-analysis [J] .Horm Metab Res,2014,46(3):171-180.
- [12] Leivonen SK,Sahlberg KK,Makela R,et al.High-throughput screens identify microRNAs essential for HER2 positive breast cancer cell growth [J] .Mol Oncol,2014,8(1):93-104.
- [13] Zhang JF,He ML,Fu WM,et al.Primate-specific microRNA-637 inhibits tumorigenesis in hepatocellular carcinoma by disrupting signal transducer and activator of transcription 3 signaling [J] .Hepatology,2011,54(6):2137-2148.

---

备注/Memo: -

---

更新日期/Last Update: 1900-01-01