

miR-181b在恶性肿瘤中的研究进展

《现代肿瘤医学》[ISSN:1672-4992/CN:61-1415/R] 期数: 2019年18期 页码: 3327-3329 栏目: 综述 出版日期: 2019-08-08

Title: Research progress of miR-181b in malignant tumors

作者: 崔建琦; 赵艳滨

哈尔滨医科大学附属肿瘤医院内五科, 黑龙江 哈尔滨 150081

Author(s): Cui Jianqi; Zhao Yanbin

Department of Medicine, Harbin Medical University Cancer Hospital, Heilongjiang Harbin 150081, China.

关键词: miR-181b; 恶性肿瘤; 研究进展

Keywords: miR-181b; malignant tumor; research progress

分类号: R730

DOI: 10.3969/j.issn.1672-4992.2019.18.039

文献标识码: A

摘要: miRNA是一种存在于真核生物中的内源性非编码短链RNA, 具有极其复杂的调控机制, 可对肿瘤的发生发展起到广泛调节的作用, 即可作为致瘤因子, 亦可作为抑瘤因子。随着对miRNA研究的不断深入, miR-181b在恶性肿瘤中的表达已成为医学领域关注的热点问题。研究表明, miR-181b存在多个靶点, 每个靶基因又参与调控多种细胞功能, 从而在恶性肿瘤的增殖、凋亡、侵袭、转移及耐药等过程中起到错综复杂的作用。而且它还对肿瘤的早期诊断有预测作用。本文就miR-181b在恶性肿瘤中的研究进展作一综述。

Abstract: miRNA is an endogenous non-coding short-stranded RNA existing in eukaryotes. It has a very complex regulatory mechanism and can play a broad role in the occurrence and development of tumors. It can be used as both tumor-causing factor and tumor-suppressing factor. The expression of miRNA in malignant tumors has become a hot issue in the field of medicine. It has been shown that there are many targets of miR-181b, and each target gene is involved in the regulation of various cell functions, which plays a complex role in the proliferation, apoptosis, invasion, metastasis and drug resistance of malignant tumors. Moreover, it can predict the early diagnosis of tumor. This article reviews the relationship between miR-181b and malignant tumors.

参考文献/REFERENCES

- [1] Paul P, Chakraborty A, Sarkar D, et al. Interplay between miRNAs and human diseases [J]. *J Cell Physiol*, 2018, 233(3):2007-2018.
- [2] Rupaimoole R, Slack FJ. MicroRNA therapeutics: towards a new era for the management of cancer and other diseases [J]. *Nat Rev Drug Discov*, 2017, 16(3):203-222.
- [3] Ramassone A, Pagotto S, Veronese A, et al. Epigenetics and microRNAs in cancer [J]. *Int J Mol Sci*, 2018, 19(2):e459.
- [4] Pop-Bica C, Pintea S, Cojocneanu-Petric R, et al. MiR-181 family-specific behavior in different cancers: a meta-analysis view [J]. *Cancer Metastasis Rev*, 2018, 37(1):17-32.
- [5] Li LQ, Yang Y, Chen H, et al. MicroRNA-181b inhibits glycolysis in gastric cancer cells via targeting hexokinase 2 gene [J]. *Cancer Biomark*, 2016, 17(1):75-81.
- [6] Pan X, Feng J, Zhu Z, et al. A positive feedback loop between miR-181b and STAT3 that affects Warburg effect in colon cancer via regulating PIAS3 expression [J]. *J Cell Mol Med*, 2018, 22(10):5040-5049.
- [7] Li JG, Ding Y, Huang YM, et al. FAMLF is a target of miR-181b in Burkitt lymphoma [J]. *Braz J Med Biol Res*, 2017, 50(6):e5661.
- [8] Xu DD, Hou PJ, Wang Y, et al. Reciprocal activation between STAT3 and miR-181b regulates the proliferation of esophageal cancer stem-like cells via the CYLD pathway [J]. *Molecular Cancer*, 2016, 15(1):40.
- [9] Li D, Jian W, Wei C, et al. Down-regulation of miR-181b promotes apoptosis by targeting CYLD in thyroid papillary cancer [J]. *Int J Clin Exp Pathol*, 2014, 7(11):7672-7680.
- [10] Tong SJ, Liu J, Wang X, et al. MiR-181 promotes prostate cancer cell proliferation by regulating DAX-1 expression [J]. *Exp Ther Med*, 2014, 8(4):1296-1300.
- [11] Zhou Q, Zheng X, Chen L, et al. Smad2/3/4 pathway contributes to TGF- β -induced miRNA-181b expression to promote gastric cancer metastasis by targeting Timp3 [J]. *Cell Physiol Biochem*, 2016, 39(2):453-466.
- [12] Li XT. The role of micro RNA-181b-5p in the TGF- β 1-induced epithelial-to-mesenchymal transition in non-small lung cancer stem-like cells and the underlying mechanism [D]. Chongqing: Third Military Medical

University, 2016. [李雪涛.miR-181b-5p 促进肺癌干细胞样细胞发生上皮间质转化中的作用及机制研究 [D].重庆:第三军医大学,2016.]

[13] Wang XY,Chen XS,Meng QW,et al.MiR-181b regulates cisplatin chemosensitivity and metastasis by targeting TGFbeta R1/Smad signaling pathway in NSCLC [J].Scientific Reports, 2015,5 (1) :e17618.

[14] ZHAO D.The role of TLR4/miR-181b axis in the epithelial-mesenchymal transition(EMT) induced by TGF-β and its molecular mechanism TLR4/miR-181b [D].Jilin:Jilin University,2016. [赵丹.TLR4/miR-181b信号轴对TGF-β介导的上皮-间质转化的调控作用及机制研究 [D].吉林:吉林大学, 2016.]

[15] Zhi F,Wang Q,Deng D,et al.Mi R-181b-5p downregulates NOVA1 to suppress proliferation,migration and invasion and promote apoptosis in astrocytoma [J].PloS One,2014,9(10):e109124.

[16] Tan X,Banerjee P,Liu X, et al.The epithelial-to-mesenchymal transition activator ZEB1 initiates a prometastatic competing endogenous RNA network [J].J Clin Invest,2018, 128(4):1267-1282.

[17] Wang L,Wang YX,Chen LP,et al.Upregulation of microRNA-181b inhibits CCL18-induced breast cancer cell metastasis and invasion via the NF-κB signaling pathway [J].Oncol Lett,2016, 12(6):4411-4418.

[18] Zhou Y,Peng Y,Liu M,et al.MicroRNA-181b inhibits cellular proliferation and invasion of glioma cells via targeting sal-like protein 4 [J].Oncol Res,2017,25(6):947-957.

[19] Yoo JO,Kwak SY,An HJ,et al.miR-181b-3p promotes epithelial-mesenchymal transition in breast cancer cells through SNAIL stabilization by directly targeting YWHAG [J].Biochim Biophys Acta,2016,1863(7 Pt A):1601-1611.

[20] Zhao LD,Zheng WW,Wang GX,et al.Epigenetic silencing of miR-181b contributes to tumorigenicity in colorectal cancer by targeting RASSF1A [J].Int J Oncol,2016, 48(5):1977-1984.

[21] Tian F, Shen YT, Chen ZZ,et al.Aberrant miR-181b-5p and miR-486-5p expression in serum and tissue of non-small cell lung cancer [J].Gene,2016,591(2):338-343.

[22] Antonina P,Caterina B,Elisabetta A,et al.Ewing's sarcoma:An analysis of miRNA expression profiles and target genes in paraffin-embedded primary tumor tissue [J].Int J Mol,2016,17(5): 656-675.

[23] Huang SK,Wang J,Li J,et al.Serum microRNA expression profile as a diagnostic panel for gastric cancer [J].Jpn J Clin Oncol,2016,46(9):811-818.

[24] Chen Y,Li R,Pan M,et al.MiR-181b modulates chemosensitivity of glioblastoma multiforme cells to temozolomide by targeting the epidermal growth factor receptor [J].J Neurooncol,2017,133 (3):477-485.

[25] Liu HN,Qie P,Yang G,et al.miR-181b inhibits chemoresistance in cisplatin-resistant H446 small cell lung cancer cells by targeting Bcl-2 [J].Arch Med Sci,2018,14(4):745-751.

[26] Wang X,Meng Q,Qiao W,et al.miR-181b/Notch2 overcome chemoresistance by regulating cancer stem cell-like properties in NSCLC [J].Stem Cell Res Ther,2018,9(1):327.

[27] Zheng Y,Lv X,Wang X,et al.MiR-181b promotes chemoresistance in breast cancer by regulating Bim expression [J].Oncol Rep, 2016,35(2):683-690.

备注/Memo: National Natural Science Foundation of China(No.81673024);国家自然科学基金面上项目 (编号: 81673024) ;黑龙江省留学归国人员科学基金 (编号: LC2018038) ;哈尔滨市科技创新人才优秀学科带头人项目(编号: 2016RAXYJ076)

更新日期/Last Update: 1900-01-01