

## عنوان مقاله:

microRNA-29a functions as a tumor suppressor in nasopharyngeal carcinoma 5-8F cells through targeting VEGF

## محل انتشار:

مجله علوم پایه پزشکی ایران، دوره 22، شماره 5 (سال: 1398)

تعداد صفحات اصل مقاله: 6

## نویسندگان:

Qingyuan Shi - Department of Otorhinolaryngology, HwaMei Hospital, University of Chinese Academy of Sciences (Ningbo No.2 Hospital), Ningbo, Zhejiang 315010, P.R.China

Jinhua Dai - Department of Clinical Laboratory, HwaMei Hospital, University of Chinese Academy of Sciences (Ningbo No.2 Hospital), Ningbo, Zhejiang 315010, P.R.China

Lizhen Huang - Department of Otorhinolaryngology, HwaMei Hospital, University of Chinese Academy of Sciences (Ningbo No.2 Hospital), Ningbo, Zhejiang 315010, P.R.China

## خلاصه مقاله:

Objective(s): microRNA-29 (miR-29) family miRNAs have been mentioned as tumor suppressive genes in several human cancers. The purpose of this study was to investigate the function of miR-29a in nasopharyngeal carcinoma (NPC) cells. Materials and Methods: Human NPC cell line 5-8F was transfected with mimic, inhibitor or scrambled controls specific for miR-29a. Subsequently, cell viability, migration, apoptosis and expression changes of VEGF were assessed by trypan blue staining, MTT assay, transwell assay, flow cytometry, Western blot and RT-qPCR. TargetScan online database was used to predict the targets of miR-29a, and luciferase reporter assay was carried out for testing the targeting relationship between VEGF and miR-29a. Western blot analysis was performed to determine the expression changes of core proteins in PI3K/AKT and JAK/STAT pathways. Results: Overexpression of miR-29a suppressed 5-8F cells viability and relative migration, but increased apoptotic cell rate. Consistently, Bcl-2 was downregulated, Bax was upregulated, and caspase-3 and -9 were cleaved by miR-29a overexpression. VEGF was a target gene of miR-29a. Besides, VEGF silence exerted similar effects like miR-29a, as the viability and migration were repressed and apoptosis was induced. Finally, we found that PI3K/AKT and JAK/STAT pathways were deactivated by miR-29a or VEGF silence. Conclusion: These findings highlighted the tumor suppressive effects of miR-29a on NPC cells, as its overexpression inhibited 5-8F cells viability, migration, and induced apoptosis. miR-29a exerted tumor suppressive functions might be via targeting VEGF and deactivating PI3K/AKT and JAK/STAT pathways.

## کلمات کلیدی:

5-8F cell, miR-29a, Nasopharyngeal carcinoma- (NPC), PI3K/AKT and JAK/STAT- pathways, VEGF

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/942564>



