

عنوان مقاله:

The effect of miRNA- ۴۴۲۲ replacement therapy in porolifretion, apoptosis,metastasis and migration of KATO ۳ cell line in vitro

محل انتشار:

چهارمین کنگره بین المللی و شانزدهمین کنگره ملی ژنتیک (سال: 1399)

تعداد صفحات اصل مقاله: 1

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خلاصه مقاله:

Background and Aim: Gastric cancer is one of the most important gastrointestinal cancers and the leading cause of death. MicroRNAs, as significant cellular regulators by affecting their target genes, are involved in growth, apoptosis, differentiation and cell proliferation.in the present study, miR-۴۴۲۲ was selected as a new class of miRNAs discovered for replacement therapy.Methods: In this study, the KATO ۳ cell line cultured as a human gastric adenocarcinoma cell. miR-۴۴۲۲ was analyzed by bioinformatics analysis and its target genes and biological pathways were also identified miRNA mimic miR-۴۴۲۲ was performed by transfection it into the KATO ۳ cells.Eventually, modification in migratory and proliferative potential of the cells were respectively examined by wound healing and ۳-(۴,۵-dimethylthiazol-۲-yl)-۲,۵-diphenyl tetrazolium bromide (MTT) assays. Furthermore, to recognized apoptosis occurrence in the transfected cells, ۴',۶-diamidino-۲- phenylindole (DAPI) staining was used and Annexin-pi assay was used to measure the apoptosis and necrosis by flow cytometry. Moreover, the level of expression the target genes of miR-۴۴۲۲ such as MAPK۸, SMAD۲, SMAD۴, SMAD۸, GRB۲ and PTPN۳, were assessed by quantitativeReal-Time PCR(qRT-PCR).Results: According to the result, a decreased migratory potential and viability were perceived for the miR-۴۴۲۲ transfecting cells. In addition, MAPK۸, SMAD۲, SMAD۴, GRB۲, were significantly downregulated in the transfected cell with miR-۴۴۲۲. however, SMAD۸ and PTPN۳ were not significantly downregulated in the transfected group compared to the control group.Conclusion: In summary, therapeutic and prognostic modalities so significant in gastric cancer. miR- ۴۴۲۲ replacement would be considered as an impressive strategy for the management of gastric cancer and lessening its invasive features

کلمات کلیدی:

Gastric cancer, KATO ۳ cell line, apoptosis, metastasis, microRNA replacement therapy, mir-۴۴۲۲ transfection

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