CDK8

Gastric cancer (GC) is a malignant tumor with a significantly high mortality rate, yet, its pathogenesis is not fully understood. Bioinformatics predicted that LINC01224 is highly expressed in stomach adenocarcinoma (STAD), and showed that LINC01224 adsorbed miR-193a-5p to target CDK8. Therefore, a study by Sun et al. intended to verify the effect of the LINC01224/miR-193a-5p/CDK8 axis on the biological behavior of gastric cancer.

Expressions of LINC01224, miR-193a-5p, CDK8, apoptosis-, and EMT-related genes were analyzed using the GEPIA website, RT-qPCR, in situ hybridization, and Western blot as needed. Bioinformatics and Dual-luciferase reporter assay were used to evaluate the relationship between LINC01224, miR-193a-5p, and CDK8. Functional experiments and rescue experiments (MTT assay, flow cytometry, wound healing assay, and Transwell) was conducted to detect the effects of the above genes on the biological characteristics of GC cells. A tumorigenesis assay was used to verify the results of in vitro experiments.

LINC01224 adsorbed miR-193a-5p to target and upregulate CDK8. The expressions of LINC01224 and CDK8 were increased, while the expression of miR-193a-5p was decreased in GC. Overexpressed LINC01224 promoted cell viability, migration and invasion, accelerated tumor formation, attenuated apoptosis, inhibited the expressions of apoptosis-related proteins, and promoted the expressions of EMT-related proteins, whereas silenced LINC01224 led to the opposite effect. MiR-193a-5p inhibitor partially offset the effect of silenced LINC01224; interestingly, siCDK8 significantly reversed the effect of miR-193a-5p inhibitor on GC cells.

LINC01224 affects the biological behavior of gastric cancer by mediating miR-193a-5p to regulate CDK8 [1)].

1)
Sun H, Yan J, Tian G, Chen X, Song W. LINC01224 accelerates malignant transformation via MiR-193a-5p/CDK8 axis in gastric cancer. Cancer Med. 2021 Feb;10(4):1377-1393. doi: 10.1002/cam4.3726. PMID: 33655711.