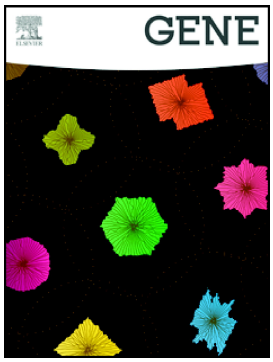

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MiR-19a negatively regulated the expression of PTEN and promoted the growth of ovarian cancer cells

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Abstract

Ovarian cancer is the most lethal malignancy of the women genital tract. Exploring novel factors involved in the development of ovarian cancer and characterizing the molecular mechanisms by which regulate the tumorigenesis of ovarian cancer are quite necessary. Here, we found that miR-19a was highly expressed in ovarian cancer tissues and cell lines. Overexpression of miR-19a promoted the viability of ovarian cancer cells, while down-regulation of miR-19a inhibited the growth of ovarian cancer cells. To further understand the underlying molecular mechanism of miR-19a in regulating ovarian cancer cell growth, the downstream targets of miR-19a were predicted. The bioinformatics analysis showed that the tumor suppressor PTEN was found as one of the targeting candidates of miR-19a. MiR-19a bound the 3'-UTR of PTEN and highly expressed miR-19a decreased both the mRNA and protein levels of PTEN in ovarian cancer cells. Overexpression of PTEN suppressed the promoting effect of miR-19a on regulating the growth of ovarian cancer cells. Notably, the expression of miR-19a and PTEN was inversely correlated in ovarian cancer tissues. These results demonstrated the potential oncogenic role of miR-19a in ovarian cancer, which suggested that