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# miR-133 inhibits pituitary tumor cell migration and invasion via down-regulating FOXC1 expression

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**ABSTRACT.** Many studies have shown that microRNA (miR)-133 functions as a tumor suppressor in a variety of metastatic cancers, including breast cancer, gastric cancer, and liver fibrosis. However, the influence of miR-133 on pituitary tumor malignancy has not yet been reported. The purpose of this study was to explore the role of miR-133 in pituitary tumor cell migration and invasive ability and the molecular mechanisms involved. Our findings suggest that in pituitary adenoma cell lines, through direct targeting and negative control of forkhead box C1 (FOXC1), miR-133 can inhibit pituitary adenoma cell migration and invasion. In addition, epithelial-to-mesenchymal transition can be induced by miR-133. Additionally, a negative correlation was found between FOXC1 and miR-133 expression

 

when comparing their expression levels between cancerous tissue and adjacent normal tissue. This suggests that miR-133 can inhibit cell migration and invasion by directly targeting FOXC1, implying that miR-133 could be a potential therapeutic target for treatment of invasive pituitary adenoma.

**Key words:** Pituitary adenoma; miR-133; FOXC1; Migration; Invasion

 