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MiR-93-5p promotes gastric cancer-cell progression via inactivation of the Hippo signaling pathway

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Abstract:

MiR-93-5p has been previously found to be associated with gastric cancer (GC) tumorigenesis; however, the current understanding of its function in this context remains largely incomplete. In the present study, we showed that miR-93-5p was upregulated in GC tissues. We also demonstrated that miR-93-5p overexpression promoted the proliferation, migration, invasion, and chemoresistance of SGC-7901 cells *in vitro*, and conversely, that endogenously silencing miR-93-5p expression induced the opposite effects in HGC-27 cells. Overexpression of miR-93-5p was found to inactivate the Hippo pathway, and furthermore, miR-93-5p knockdown activated Hippo signaling. MiR-93-5p upregulation was also shown to inhibit the expression of two well-characterized Hippo pathway regulators, protocadherin Fat 4 (FAT4), and large tumor suppressors 2 (LATS2), at both the mRNA and protein level. Additionally, the results of bioinformatics analyses and luciferase reporter assays indicated that miR-93-5p directly targets the 3'-UTR of FAT4 and LATS2. Taken together, these results demonstrate that miR-93-5p promotes GC-cell progression via the inactivation of the Hippo signaling pathway, and thus, represents a potential therapeutic target for the treatment of GC.