miR-429 inhibits metastasis by targeting KIAA0101 in Soft Tissue Sarcoma.

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Soft tissue sarcomas (STS) are a heterogeneous group of rare tumors with high metastatic potential. There being only a handful of publication on metastasis of STS, we investigated the miRNA mediated target gene regulations in modulating the metastatic processes in this cancer. In this study, we amalgamated gene and miRNA expression profiles of high-grade STS samples with miRNA target predictions and identified miR-429 targeting KIAA0101 as a novel pair, which remain unexplored in STS metastasis. We validated their expression in metastatic fibrosarcoma cell line, HT1080 and performed several functional assays using miRNA mimics and KIAA0101 over-expression vector to confirm their role in metastasis. We observed miR-429 is downregulated in HT1080 cells and acting as an anti-metastatic miRNA that inhibited proliferation, migration, anchorage independent growth and invasion by de-repressing KIAA0101. Moreover, the renilla luciferase reporter assay confirmed that miR-429 targets KIAA0101 by binding to its 3/UTR and influence its expression. Taken together, our work demonstrated miR-429 mediates deregulation of KIAA0101 by acting as an anti-metastatic miRNA that targets KIAA0101 pro-metastatic gene during metastasis of STS. More in ***Experimental Cell Research (2017), http://dx.doi.org/10.1016/j.yexcr.2017.04.017.***