Exploring the Role of Circulating miR-134 in Breast Cancer Recurrence

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MicroRNAs (miRNAs) are short sequences of RNA (about 22 nucleotides) that are involved in the regulation of gene expression. My previous study has identified the serum miR-134 as a new biomarker to predict breast cancer recurrence after primary treatment. To further study the function of miR-134 in breast cancer progression, I transfected miR-134 into breast cancer and macrophage cells. I found that overexpression of miR-134 had no effect on tumor cell proliferation but induced macrophage phenotypic changes. Interestingly, the conditioned medium from miR-134 overexpressed macrophage cells promoted the growth of tumor cells. My results suggested that circulating miR-134 may promote tumor progression and recurrence by potentially mediating the interaction between tumor cells and immune cells.

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