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METTL3 regulates cell apoptosis in breast cancer cells

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Statement of the Problem: Plenty of studies showed METTL3 not only played an as an oncogene but also played as an anti-oncogene in cancers. However, regulation of METTL3 itself across mRNA and copy number variation (CNV) and roles of METTL3 played in breast cancer has not been clearly clarified. Here, we analyzed mRNA level and CNV of METTL3 in different subtypes of breast cancer, and analyzed effects of knock-down of MELLT3 on cell proliferation and cell apoptosis in breast cancer cells. Methods: Analysis of TCGA and cell experiments. Findings: Analysis of TCGA database showed that METTL3 expressed differently in various subtypes of breast and luminal A subtypes of breast cancer patients have the higher METTL3 mRNA level than other breast cancer subtypes, besides, we found a possible regulation between CNV and mRNA in breast cancer. METTL3 knockdown lead to slower cell growth and increased cell apoptosis in breast cancer cells MCF-7 and MDA-MB-231. Conclusion & Significance: (1) METTL3 expressed differently in various subtypes of breast and there is a possible regulation existed between mRNA and CNV. (2) METTL3 knockdown lead to slower cell growth and increased cell apoptosis.

Biography:
Yanfang Liu is studying for a PhD degree in Peking University. She has published more than 5 papers in reputed journals and was often invited to participate in paper review.

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