THE ROLE OF MTOR IN SAF-1-MEDIATED VEGF EXPRESSION AND BREAST CANCER PROGRESSION

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ABSTRACT

The goal of my research was to investigate some potential mechanisms involved in promoting angiogenesis, specifically, in breast cancer. Previous work in our lab has identified a novel mechanism of VEGF expression, which is mediated through the proinflammatory transcription factor SAF-1. This mechanism potentially drives angiogenesis in breast cancer at early stages of the disease, which provides a promising target for intervention. Recently, we have identified a protective role of the zinc finger protein KLF-4 against *VEGF* gene expression through competition with SAF-1. Moreover, we unraveled a novel mechanism of upregulating KLF-4 in breast cancer cells through inhibition of the serine/threonine kinase mTOR. Our findings also revealed the mechanisms underlying elevated mTOR level in breast cancer cells, which contributes to the invasiveness and progression of the tumor. These findings could provide a basis for novel chemotherapeutic modalities for breast cancer.