**EGFL6 Promotes Breast Cancer by Simultaneously Enhancing Cancer Cell Metastasis and Stimulating Tumor Angiogenesis**

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**Presenter:** Yu-Ming Wang 　 **Date/Time:** 2020/03/26 17:10 -18:00

**Commentator:** Li-Wha Wu, Ph.D. **Location:** Monto Ho Auditorium,

Uni-President Health Research Building

**Background**

EGF-like domain 6 (EGFL6), one of the EGF-like repeat superfamily members, plays important roles in cell cycle regulation and angiogenesis. There are many reports shown EGFL6 is found to be correlated with tumorigenesis, angiogenesis, and vasculogenesis. But most studies of EGFL6 are focused on ovarian cancer. Although EGFL6 is revealed as a tumor vasculature ligand for breast cancer, the role of EGFL6 in promoting breast cancer tumorigenesis is still unclear.

**Objective/Hypothesis**

The authors want to investigate the role of EGFL6 affects tumorigenesis in breast cancer by promoting angiogenesis.

**Results**

The author found that EGFL6 promotes epithelial-mesenchymal transition (EMT) and stemness of breast cancer cells to increase cell migration and invasion in cell culture studies. They also found that EGFL6 reduces apoptotic signaling in breast cancer cells and promotes tumor growth in vivo. And both blockade of EGFL6 using the novel anti-EGFL6 monoclonal antibody and silencing EGFL6 mRNA by shRNA transfection of cancer cells also significantly reduce cancer cell migration, tumor angiogenesis and tumor growth in mouse xenograft tumor models.

**Conclusion**

Expression of EGFL6 in cancer cells and tumor endothelial cells not only increases tumor angiogenesis but also promotes the migration of cancer cells. So systematic investigation of the functions of EGFL6 in breast cancer is important for further targeting EGFL6 in cancer therapy. The author created novel anti-EGFL6 antibodies that can block EGFL6 function and inhibited breast tumor growth and cancer cell mobility. This study provides a strong foundation for rational development of antibody cancer therapeutics targeting EGFL6

**References**

1. Nichol D, Stuhlmann H. EGFL7: a unique angiogenic signaling factor in vascular development and disease. Blood. 2012 2 9;119(6):1345–52. [PubMed: 22160377]