



**Susan G. Komen
Research Grants – Fiscal Year 2014**

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Reversion of triple-negative breast cancer: insights to new targeted therapy

Investigator(s): Mien-Chie Hung, Ph.D.

Lead Organization: UT M.D. Anderson Cancer Center

Grant Mechanism: KS

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Public Abstract:

Triple negative breast cancer (TNBC) is a very aggressive form of breast cancer that frequently occurs in younger women. It accounts for about 15-20% of breast cancers. Treatment for TNBC can be very challenging due to its lack of molecular targets. EZH2, is an enzyme expressed in many cancer types and has been shown to be a poor-prognosis marker in TNBC. Further, breast tumor initiating cells (BTICs) represent a small portion of tumors, but they are highly aggressive and play a role in resistance to therapies. Our preliminary data has shown that phosphorylation of EZH2 by the cell cycle regulator CDK2 leads to an increase in tumor progression, and also increases BTICs characteristics in the tumors. Thus, we hypothesize that inhibition of EZH2 activity will suppress TNBC tumors and also reduce BTICs. Understanding what molecules activate EZH2 will provide us with molecular targets for therapy.