Novel Non-canonical Functions of EZH2 in Triple Negative Breast Cancer

Brief Synopsis:

EZH2, a regulator of cell-type identity, is overexpressed in ER negative breast cancer tissues, and associated with metastasis.

Our laboratory identified another function of EZH2 in TNBC, independent of histone H3 trimethylation activity and transcriptional repression.

In TNBC EZH2 interacts with p38 MAP kinase protein, resulting in p38-mediated phosphorylation of EZH2 at T367 and cytoplasmic accumulation, which is associated with low H3K27me3 and high tumor grade.

pEZH2 T367 interacts with cytoplasmic regulators of migration and invasion, and promotes TNBC metastasis in vivo.