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Development of novel targeted therapies for ovarian cancers

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Currently ovarian cancer is the most lethal gynecological cancer in women (5 year patient survival is 30%). Ovarian cancer is associated with aggressive and invasive phenotype. High intratumoral and genetic heterogeneity has prevented identification of therapeutic targets and development of targeted therapies for triple-negative breast cancer (TNBC). We recently discovered that eEF-2 Kinase (eEF2K) is highly overexpressed in ovarian cancer patients and its expression is associated with aggressive phenotype and increased proliferation. Using *in vitro* and *in vivo* tumor models in mice, we demonstrated that eEF2K promotes cell proliferation, invasion, metastasis and tumorigenesis. We also developed siRNA-based nano therapeutics and demonstrated for the first time that *in vivo* targeting of this previously untargeted kinase by systemic administration inhibits tumor growth in several preclinical tumor xenograft models. The talk will also give background in targeted therapies used in cancer patients and our novel targeted therapies.

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