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# ***Bioengineered Model to Study Interaction Between Cancer and Immune Cells***

### **Abstract:**

Lung cancer is the leading cause of cancer-related death in the United States. Lung cancer metastasis is the stage of tumor development that often leads to patient mortality. Recently, immunotherapies such as programmed cell death 1 (PD-1) inhibitor and PD-ligand 1 (PD-L1) inhibitor have shown efficacy in treating lung cancer patients. However, it is difficult to test the efficacy of these drugs since a model must be able to provide information about the interaction between lymphocytes and the primary tumor. Recently, we have developed an *ex vivo* model that can grow both mouse and human lung cancer cell lines in a rat lung. The model can mimic the formation of a primary tumor, circulating tumor cells and metastatic lesions without any lymphocytes. We have further developed the bioengineered model to study the relationship between the immune system and lung cancer. Our future studies will focus on determining the efficacy of PD-1 inhibitor and potential causes of resistance. Once we are successful, this model can help understand the resistance of PD-1 inhibitor in patients with cancer.

**Keck Seminar**

**Friday, March 2, 4pm**

**BioScience Research Collaborative**

**Room 280 (2<sup>nd</sup> Floor)**



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