Award ID:
RP180672

Project Title:
Advanced Multiparameter Cytometry and Cell Sorting Core

Award Mechanism:
Core Facility Support Awards

Principal Investigator:
Beeton, Christine

Entity:
Baylor College of Medicine

Lay Summary:

Although a tumor can start from a gene mutation in a single cell, many different cell types help this tumor grow and metastasize, leading to life-threatening cancer. It is therefore very important to better understand the changes in tumor cells and their surrounding cells at the molecular level and the interactions between different cell types within and near a tumor. The goal of this Core Facility is to assist cancer researchers who study a large range of cancer types, including those that affect breast, prostate, throat, lung and brain cancer, lymphoma, leukemia, and many more. It will allow them to measure many parameters at the same time on cancer cells, healthy cells, cells that interact with tumors to help them grow, and immune cells tasked with destroying cancer cells. The Core will also support cancer researchers studying the interactions between cancer cells and their environment. To achieve these goals, we will purchase high-end equipment that will more than double our current detection capabilities; this will allow cancer researchers to obtain more data from even smaller blood and biopsy samples and therefore increase the speed of discoveries. This will provide deeper insights in the molecular mechanisms of cancer growth and metastasis, resulting in the identification of new therapeutic targets and the generation of novel drugs to treat and eventually prevent or eradicate tumors.