Mayo Clinic Research

We are supporting research of Dr. William Faubion and Dr. Laura Raffals called “Defining IBD Disease Phenotypes”.  The goal of their work is to develop a complete multi-omics data resource for Inflammatory Bowel Disease (IBD). Through integration of multi-dimensional molecular phenotyping of patients with IBD, we will resolve underlying pathophysiologic mechanisms enabling precision individualized therapy. Their work involves a data generation and analysis strategy combining genome-wide sequencing technologies, microbial metabolomics, and a functional cellular immune response platform on stool and cells isolated from patients. They hypothesize that multi-parameter data integration of the same exquisitely phenotyped patient will reveal distinct immunologic and microbial-induced pathways/molecular signatures determining IBD severity.

Their collection and integration of datasets will serve as the basis for hypothesis-generating and discovery-based science aimed at identifying molecular predictors of IBD. Integrated, multi-dimensional molecular barcodes of disease will foster breakthroughs in therapeutic stratification to guide improved, predictable, more cost-effective outcomes. Data generated in this grant will serve as preliminary data for subsequent funded larger trials.