

KCAS' flow cytometry team supports the clinical development for biologics and small molecules. Our experienced scientists provide custom assay development, validation, sample processing and consulting services for a wide variety of applications. We pride ourselves on being innovative problem solvers and it's our top priority to help clients overcome challenges encountered while developing functional pharmacodynamic assays, live cell assays, isolation of PBMCs, mechanism of action studies, and biomarker assays. Our flow cytometry experts can help with designing the study, performing the assay, and delivering quality data.

Applications

Flow cytometry is a critical tool for monitoring biologics and how they augment the immune system. At KCAS we use the flow cytometer to monitor phenotype and functionality of white blood cell subsets. Our flow cytometry team has experience measuring a wide range of cells, including T cells, B cells, macrophages/monocytes, basophils, neutrophils, dendritic cells and proliferation assays (BrdU assays).

Diseases

Researchers utilize flow cytometry for the treatment of patients across a broad range of diseases.

Therapeutic Areas of Expertise:

- Allergy & Asthma
- Autoimmune Disease
- Infectious Disease
- Detection of Minimal Residual Disease (MRD)
- Oncology
- Stem Cell Enumeration
- Transplantation
- Vaccines

Flow Cytometry & Biomarkers

Antigen Specific Functional Cells

Tetramer staining and intracellular cytokines
IFN- γ , TNF- α , IL-2, IL-4, IL-17

TBNK (T cell, B cell, & NK cell) Panel

CD3, CD4, CD8, CD16/56, CD19, CD45

T Cell Panels

T Regulatory Cells: CD45, CD4, CD25, CD127
Cytotoxic T Cells: CD3, CD8, CD107

B Cell Panels

Activated B Cells: CD45, CD19, CD20, CD69
Naïve B Cells: CD45, CD19, CD20, CD27^{neg}
Memory B Cells: CD45, CD19, CD20, CD27

Stem Cell Enumeration

CD45, CD34, 7-ADD

Leukemia & Lymphoma Markers

CD2, CD3, CD4, CD5, CD7, CD8, CD10, CD11b, CD11c, CD13, CD14, CD15, CD16, CD19, CD20, CD23, CD33, CD34, CD38, CD41, CD45, CD56, CD64, CD71, CD117, CD138, CD235a, FMC-7, HLA-DR, kappa, lambda

Toll Like Receptors (TLRs)

Intracellular TLRs: TLR-3,-8,-9
Extracellular TLRs: TLR-1,-2,-4,-5,-6

Activated Basophils

CD45, surface IgE, CD63, CD203c

Cytokines*

Interleukin (IL)-1, IL-2, IL-4, IL-5, IL-6, IL-8, IL-10, IL-12, IL-13, IL-17, IL-18, IL-23, IFN- γ , TNF- α , TGF- β

*Performed by Meso Scale Discovery Multiplex or ELISA