ALTASCIENCES

FLOW CYTOMETRY SERVICES

Altasciences offers expert flow cytometry services, **accurate and efficient cell counting** and **sorting**, **biomarker detection**, and **protein engineering tasks** in support of nonclinical and clinical studies. We leverage extensive knowledge with **exploratory**, **non-GLP**, **and GLP studies** from **development to validation** of **panels** for a range of applications, including **immunophenotyping**, **intracellular staining (ICS)**, and **cellular activation**.

Our labs in the U.S. and Canada are equipped with **BD LSRFortessa™** for flexibility between sites, sharing the same validation of instrumentation and panels to ensure a smooth transition from nonclinical to clinical studies. Our clinical pharmacology units are a **few minutes' drive to our labs**, moving from collection to analysis without delay.

BROAD APPLICATIONS

- Immunotoxicology
- Exposure confirmation (complement to PK evaluation) and on-target binding
- Immunomodulation
- Drug mechanism of action
- Identification of potential biomarkers
- Research/exploratory projects

Clinical

- Immunomodulation
- Neutralization assays
- PK/PD correlation
- Receptor occupancy
- Drug mechanism of action
- Functional assays

VALIDATION EXPERTISE

- Identifying and/or producing reagents and staining methodology for specific cell detection
- Establishing appropriate assay sensitivity in patients lymphodepleted following treatment
- Maintaining assay specificity with chimeric antigen reception (CAR) down-regulation in vivo
- Establishing the accuracy of cell counting methods
- Defining an appropriate quality control sample for longitudinal monitoring

WHY PARTNER WITH US?

Expertise: Dedicated **flow scientists** and highly experienced lab directors, with **targeted** and **extensive knowledge**, ensure your studies are conducted quickly and reliably.

State-of-the-art equipment: Three labs (Seattle, Columbia, and Laval) using state-of-the-art equipment, such as:

- Three (3) BD LSRFortessa™ with FACSDiva™ 9
- Two (2) BD FACS Canto™ II with FACSDiva™ 6

Lab proximity to clinical pharmacology units: With **labs located near our clinical pharmacology units**, Altasciences provides quick turnaround and a seamless transition.

WHAT MEETS YOUR NEEDS BEST?

	Project	Package	Program
Scope of work	One nonclinical or clinical study	A group of nonclinical or clinical studies for the same molecule (i.e., IND- or NDA-enabling)	Taking a compound from nonclinical to clinical development
Cost savings	Minimal	Volume-based	Maximum
Time savings	None	Some	Maximum
Extent of management required	High	Moderate	Low

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TO LEARN MORE ABOUT OUR
FLOW CAPABILITIES

contact@altasciences.com
altasciences.com

FLOW CYTOMETRY EXPERTISE

Altasciences has experience with **immunophenotyping, receptor occupancy** studies to quantify and characterize the binding profile of therapeutic drugs to targets on the cell surface, and **cellular activation of functional pathways** (e.g., phospho-STAT5 activation).

We have a number of validated nonhuman primate panels available for immediate implementation. The tables below list the cell populations that can be assessed, and markers used by each of the panels. Our experts can advise you on requirements for species, tissues, and marker combinations. Additionally, we can design custom panels to meet your unique program needs.

Project		Activated T/B cells^		Regularoty T cells	
CD3	Total T cells	CD3	Total T cells	CD3	Total T cells
CD4	T helper cells	CD4	T helper cells†^	CD4	T helper cells
CD8	T cytotoxic cells	CD8	T cytotoxic cells†^	CD8	T cytotoxic cells
CD20	B cells	CD20	B cells†	CD25	
CD16	Natural killer cells	CD69	Early activation	CD127	T regulatory cells
CD14	Monocytes	Ki67	Proliferation		

† Indicates assessment of activation status
^ Indicates assessment of proliferation

Immunophenotyping							
Panel A		Panel B		Panel C		Panel D	
CD3	Total T cells	CD3	Total T cells	CD3	Total T cells	CD3	Total T cells
CD4	T helper cells	CD4	T helper cells*	CD4	T helper cells†	CD4	T helper cells*†
CD8	T cytotoxic cells	CD8	T cytotoxic cells*	CD8	T cytotoxic cells	CD8	T cytotoxic cells*†
CD20	B cells	CD20	B cells	CD20	B cells Natural killer cells†	CD20	B cells Natural killer cells†
CD159a	Natural killer cells Natural killer T cells	CD159a	Natural killer cells Natural killer T cells	CD159a	Natural killer T cells†	CD159a	Natural killer T cells†
CD11c		CD11c		CD11c		CD11c	
HLADR	Dendritic cells	HLADR	Dendritic cells	HLADR	Dendritic cells	HLADR	Dendritic cells
CD14	Monocytes	CD28		CD25		CD25	
CD45	Leukocytes	CD95	Memory status	CD127	T regulatory cells	CD127	T regulatory cells
		CD14	Monocytes	CD14	Monocytes	CD14	Monocytes
		CD45	Leukocytes	CD45	Leukocytes	CD45	Leukocytes
				CD69	Early activation	CD69	Early activation
						CD28	
						CD95	Memory status

* Indicates assessment of memory status (naïve, effector, or central)
† Indicates assessment of activation status

CLINICAL PANEL AND EXPERIENCE

Validated Secondary Endpoint Panel

T/B/NK

CD45	CD8	CD16
CD3	CD14	CD56
CD4	CD19	

Consult **Altasciences' poster** presented at the **WRIB meeting**, describing a method of sample preparation that prevents loss of cell, cross-staining, or interference from unstained sample for accurate linearity assessment.

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