DVS Sciences

CyTOF® Experiment Planning Form

Principal Investigator			
Company / Institution			
Department			
Address			
Email		**Phone**	
Instrument			
Manager			
Email		**Phone**	
DVS App Scientist			
Email		**Phone**	

Introduction

This document is used to plan new Mass Cytometry experiments. The components of a Mass Cytometry experiment include **experimental design, validation of reagents, collection of experimental samples, and data analysis**, and are described in detail below.

Step 1: Design experiment

When engaging a new project, it is recommended to begin with small experiments with definitive positive and negative biological controls that clearly demonstrate the biology, probes, and protocols are working. Fill out the experimental details below:

Application type (x all that apply):

	Immunophenotyping		Intracellular Cytokine Analysis
	Signaling		Apoptosis
	Other (describe):		N/A

Purpose and expected results:

Experimental details:

Cell Type:	
Number of samples:	
Expected number of cells per sample:	
Expected frequency of rarest cell of interest:	
Biologic positive control:	
Biologic negative control:	

Proposed markers (comparative fluorescent tag in parenthesis)

Tag	Target
191/3Ir	Live cells
103Rh	Dead cells

Tag	Target

Proposed samples (maximum of 8)

Sample #	Marker #*	Description

* Not including DNA markers

Step 3: Validation of Reagents

Prior to preparing the experimental samples, all DVS staining reagents must be validated on your cell type of interest to determine optimal staining conditions. This involves a staining titration performed by you on your cell type of interest followed by subsequent CyTOF analysis.

Step 4: Collection of experimental samples

When preparing experimental samples for the first time, it is recommended to collect comparative fluorescence flow cytometry data on the same samples used for mass cytometry analysis for validation purposes. If required, samples should be shipped according to our detailed shipping instructions.

Step 5: Data Analysis

Data is collected in tab-delimited text (.txt) and flow cytometry standard (.fcs) formats for analysis in third party analysis software.