



Publishing MIFlowCyt Compliant Data to ISAC's FlowRepository.org for Cytometry A and Other Journals

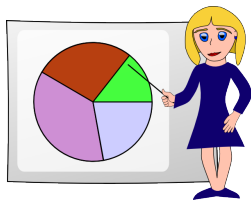
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Terry Fox Laboratory
BC Cancer Agency, Vancouver, BC, Canada

June 27, 2012

Outline

- Introduction
 - Motivation
 - Background
- FlowRepository
 - Data review and download
 - Data upload and annotation
 - Data sharing
- Summary & Conclusions
 - Summary
 - Future Work
 - Acknowledgments



Why share your data?

- Promote open scientific inquiry and progress in the field
 - Allow for re-exploration of existing datasets to test new or alternative hypotheses and methods of analysis
 - Allow for independent validation and refutation of experimental findings
- Required or encouraged by many funding agencies and scientific journals

What to share?

- A dump of FCS files is not enough
 - Data without context are not understandable to others
- Minimum Information about a Flow Cytometry Experiment
 - Outlines the minimum information required to report about flow cytometry experiments
 - Represents the community consensus
 - 33 coauthors from 19 institutions
 - ISAC Recommendation
 - Required/recommended by Cytometry A and Nature



Lee et al., MIFlowCyt: the Minimum Information about a Flow Cytometry Experiment. *Cytometry A*. 2008; 73(10): 926-930

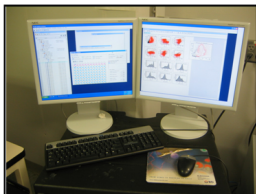
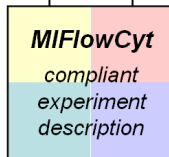
MIFlowCyt components



Experiment overview



Sample description



Data analysis



Instrumentation

MIFlowCyt components

Experiment overview

- Purpose
- Keywords
- Experiment variables
- Date(s)
- Organization(s)
- Primary contact
- Quality control measures

Sample description

- Description
- Sample material
- Treatment
- Fluorescent reagents
- Source
- Biological samples: Organism with taxonomy, phenotype, genotype, age, gender, ...
- Location for environmental samples

Data analysis

- FCS data files
- Compensation and other transformations
- Gating details including gate description, statistics and boundaries or images or gate membership details

Instrumentation details

- Make
- Model
- User-adjustable components (e.g., detector voltages)
- Customized configurations

How to share all these details?

- Manuscript, e.g., the methods section
- Manuscript's supplemental information
- Data repository



FlowRepository – What is it?

- A public online resource of annotated flow cytometry datasets
 - Primarily those associated with peer-reviewed publications
- Web-based application created by extending and adapting Cytobank
 - Mainly to incorporate MIFlowCyt
- Open source
 - Affero General Public License
- Supported by ISAC and generously hosted by Carnegie Mellon University

FlowRepository – What do you need to start?

- A **computer** with **Internet connection**
 - Fast connection is good, especially when uploading large datasets
- Web browser
 - **Firefox** or Chrome recommended
 - Safari or Internet Explorer also works but may not look great
- Ability to run **Java** Applets in the Web browser
 - Java version 1.5.1 or higher is required for data upload, download and online analysis
- A **Google ID**, Yahoo! ID, or another OpenID
 - Required for write access

Accessing FlowRepository

- Navigate your Web browser to <http://flowrepository.org>
 - Or <https://flowrepository.org> if you prefer a secure protocol

Accessing FlowRepository

- Navigate your Web browser to <http://flowrepository.org>
 - Or <https://flowrepository.org> if you prefer a secure protocol
- Demonstration (offline)
 - Access FlowRepository
 - Review a public dataset
 - Deposit, annotate and share a dataset

Did you know?

A guide to FlowRepository is available at the [documentation site for Cytobank and FlowRepository](#).

We also have a [Quick start guide](#).

You can contact us by filling out a [support ticket](#).

Supporting journal



FlowRepository at CYTO 2012

» **Sunday, June 24:** State of the Art Lectures - Computational Analysis of High-Dimensional Data

» **Tuesday, June 26:** Parallel 8 - Cytometry Technology: Cytometry Software and Informatics

» **Wednesday, June 27:** Workshop 13 - Publishing MIFlowCyt Compliant Data to ISAC's FlowRepository.org for Cytometry A and Other Journals



FlowRepository

FlowRepository is a database of flow cytometry experiments where you can query and download data collected and annotated according to the [MIFlowCyt standard](#).

Query

Enter a term to search all publicly available experiments:

[Hide query fields](#)

- | | | |
|--|--|---|
| <input checked="" type="checkbox"/> Experiment Names | <input checked="" type="checkbox"/> Repository Identifiers | <input checked="" type="checkbox"/> Keywords |
| <input checked="" type="checkbox"/> Researcher Names | <input checked="" type="checkbox"/> Reagents and Manufacturers | <input checked="" type="checkbox"/> Instruments and Manufacturers |
| <input type="checkbox"/> FCS Files (Headers) | <input checked="" type="checkbox"/> Sample Annotations | <input checked="" type="checkbox"/> Pubmed IDs |

Links

- | | | |
|--|-----------------------------------|--|
| Browse all public datasets | Quick start guide | Referencing Flow Repository and Cytobank |
| Browse community datasets | Submit data | FlowRepository Steering Committee & Advisory Board |
| Browse most popular datasets | Funding | |

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Query

Enter a term to search all publicly available experiments:

[Hide query fields](#)

- Experiment Names
- Repository Identifiers
- Keywords
- Researcher Names
- Reagents and Manufacturers
- Instruments and Manufacturers
- FCS Files (Headers)
- Sample Annotations
- Pubmed IDs

Links

- [Browse all public datasets](#)
- [Quick start guide](#)
- [Referencing Flow Repository and Cytobank](#)
- [Browse community datasets](#)
- [Submit data](#)
- [FlowRepository Steering Committee & Advisory Board](#)
- [Browse most popular datasets](#)
- [Funding](#)

• Type *Identification of B cells* in the Query field

« Back to Start Page

[Browse All Public Experiments »](#)

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1 matching experiment found.

Search:

Experiment Name	Repository ID	Pubmed ID(s)	FCS Files	Illustrations	Primary Researcher	Project	MIFlowCyt Score	Updated
Identification of B cells through negative gating	FR-FCM-ZZZ3	[20131398]	284	3	Karin Breuer		<div style="width: 100%; height: 10px; background-color: green;"></div>	12:19 PM

Showing 1 to 1 of 1 entries

- FR-FCM-ZZZ3 is the dataset repository identifier
- Each identifier is in the form of FR-FCM-*xxxx*
- A public view of an experiment can be accessed directly via <https://flowrepository.org/id/FR-FCM-xxxx>

Experiment: Identification of B cells through negative gating ID: FR-FCM-ZZZ3 Primary Researcher: Karin Breuer MIFlowCyt Score: 89.83%

« Back to All Public Experiments

« Back to Start Page

Did you know?
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We also have a [Quick start guide](#).
You can contact us by filling out a [support ticket](#).

Supporting journal

Cytometry

- FlowRepository at CYTO 2012**
- » **Sunday, June 24:** State of the Art Lectures - Computational Analysis of High-Dimensional Data
 - » **Tuesday, June 26:** Parallel 8 - Cytometry Technology: Cytometry Software and Informatics
 - » **Wednesday, June 27:** Workshop 13 - Publishing MIFlowCyt Compliant Data to ISAC's FlowRepository.org for Cytometry A and Other Journals

Use FlowRepository to access, review,

Experiment Overview

Repository ID: FR-FCM-ZZZ3	Experiment name: Identification of B cells through negative gating	MIFlowCyt score: 89.83%
Primary researcher: Karin Breuer	PI manager: Karin Breuer	Uploaded by: Karin Breuer
Experiment dates: 2007-05-30 - 2007-08-21	Dataset uploaded: Apr 2011	Last updated: 12:19 PM
Keywords: [Innate Immune Response] [Toll-like receptors] [Activation markers] [B cells] [MIFlowCyt]	Pubmed IDs: [20131398]	
Organizations: Child & Family Research Institute, Department of Pediatrics, Vancouver, BC (Canada) University of Washington Medical Center, Department of Immunology, Seattle, Washington (USA)		
Purpose: The purpose of the experiment presented here was to test whether human B cells can be identified through a negative-gating strategy.		
Conclusion: B cells can be identified through a negative-gating strategy. Specifically, B lymphocytes are the MHC II+, CD14neg, CD11cneg, and CD123neg cells. Only on the extreme ends of a response spectrum (i.e., either none of the B cells respond to a given innate stimulation or almost all B cells respond but not monocyte, mDC or pDC) would this B cell negative-gating strategy supply acceptable data. In other words, our negative-gating strategy would potentially be difficult to interpret if both B cell and non-B cell populations responded in low frequency.		
Comments: We set out to compare a negative-gating strategy to identify B cells with the usual positive identification of these cells using the canonical B cell surface marker, CD19. We also wanted to assess the functional response of these B cells to Toll-like receptor stimulation using the following TLR ligands: PAM3CSK4, LPS, and CpG-A ODN 2336. The blood draws, PBMC isolation, and TLR stimulations were performed between 30 May and 5 June 2007. The flow cytometry analyses were performed between 8 June and 21 August 2007.		
Quality control: To standardize voltage settings across samples acquired on different days, single stained controls were included. Voltages were adjusted such that fluorescence intensity was identical for each antibody, regardless of date of acquisition.		

Experiment variables

- Individuals**
- a2006_O1T2pb05i_A1_A01.fcs
 - a2006_O1T2pb05i_A2_A02.fcs
 - a2006_O1T2pb05i_A3_A03.fcs
 - a2006_O1T2pb05i_A4_A04.fcs
 - a2006_O1T2pb05i_A5_A05.fcs
 - a2006_O1T2pb05i_A6_A06.fcs
 - a2006_O1T2pb05i_A7_A07.fcs
 - a2006_O1T2pb05i_A8_A08.fcs
 - a2006_O1T2pb05i_B1_B01.fcs
 - a2006_O1T2pb05i_B2_B02.fcs
 - a2006_O1T2pb05i_B3_B03.fcs
 - a2006_O1T2pb05i_B4_B04.fcs
 - a2006_O1T2pb05i_B5_B05.fcs
 - a2006_O1T2pb05i_B6_B06.fcs
 - a2006_O1T2pb05i_B7_B07.fcs
 - a2006_O1T2pb05i_B8_B08.fcs
 - a2006_O1T2pb05i_C1_C01.fcs
 - a2006_O1T2pb05i_C2_C02.fcs
 - a2006_O1T2pb05i_C3_C03.fcs
 - a2006_O1T2pb05i_C4_C04.fcs
 - a2006_O1T2pb05i_C5_C05.fcs
 - a2006_O1T2pb05i_C6_C06.fcs
 - a2006_O1T2pb05i_C7_C07.fcs
 - a2006_O1T2pb05i_C8_C08.fcs
 - a2006_O1T2pb05i_D1_D01.fcs
 - a2006_O1T2pb05i_D2_D02.fcs
 - a2006_O1T2pb05i_D3_D03.fcs
 - a2006_O1T2pb05i_D4_D04.fcs
 - a2006_O1T2pb05i_D5_D05.fcs
 - a2006_O1T2pb05i_D6_D06.fcs
 - a2006_O1T2pb05i_D7_D07.fcs
 - a2006_O1T2pb05i_D8_D08.fcs
 - a2006_O1T2pb05i_E1_E01.fcs
 - a2006_O1T2pb05i_E2_E02.fcs
 - a2006_O1T2pb05i_E3_E03.fcs
 - a2006_O1T2pb05i_E4_E04.fcs
 - a2006_O1T2pb05i_E5_E05.fcs
 - a2006_O1T2pb05i_E6_E06.fcs
 - a2006_O1T2pb05i_E7_E07.fcs
 - a2006_O1T2pb05i_E8_E08.fcs
 - a2006_O1T2pb05i_F1_F01.fcs
 - a2006_O1T2pb05i_F2_F02.fcs
 - a2006_O1T2pb05i_F3_F03.fcs
 - a2006_O1T2pb05i_F4_F04.fcs
 - a2006_O1T2pb05i_controls_G10_G10.fcs
 - a2006_O1T2pb05i_controls_G11_G11.fcs
 - a2006_O1T2pb05i_controls_G12_G12.fcs
 - a2006_O1T2pb05i_controls_G1_G1.fcs
 - a2006_O1T2pb05i_controls_G2_G2.fcs
 - a2006_O1T2pb05i_controls_G3_G3.fcs
 - a2006_O1T2pb05i_controls_G4_G4.fcs
 - a2006_O1T2pb05i_controls_G5_G5.fcs
 - a2006_O1T2pb05i_controls_G6_G6.fcs

Repository ID:	FR-FCM-ZZZ3	Experiment name:	Identification of B cells through negative gating	MIFlowCyt score:	89.83%
Primary researcher:	Karin Breuer	PI/manager:	Karin Breuer	Uploaded by:	Karin Breuer
Experiment dates:	2007-05-30 - 2007-08-21	Dataset uploaded:	Apr 2011	Last updated:	12:19 PM
Keywords:	[Innate Immune Response] [Toll-like receptors] [Activation markers] [B cells] [MIFlowCyt]	Pubmed IDs:			[20131398]
Organizations:	Child & Family Research Institute, Department of Pediatrics, Vancouver, BC (Canada) University of Washington Medical Center, Department of Immunology, Seattle, Washington (USA)				
Purpose:	The purpose of the experiment presented here was to test whether human B cells can be identified through a negative-gating strategy.				
Conclusion:	B cells can be identified through a negative-gating strategy. Specifically, B lymphocytes are the MHC II+, CD14neg, CD11cneg, and CD123neg cells. Only on the extreme ends of a response spectrum (i.e., either none of the B cells respond to a given innate stimulation or all/most B cells respond but not monocyte, mDC or pDC) would this B cell negative-gating strategy supply acceptable data. In other words, our negative-gating strategy would potentially be difficult to interpret if both B cell and non-B cell populations responded in low frequency.				
Comments:	We set out to compare a negative-gating strategy to identify B cells with the usual positive identification of these cells using the canonical B cell surface marker, CD19. We also wanted to assess the functional response of these B cells to Toll-like receptor stimulation using the following TLR ligands: PAM3CSK4, LPS, and CpG-A ODN 2336. The blood draws, PBMC isolation, and TLR stimulations were performed between 30 May and 5 June 2007. The flow cytometry analyses were performed between 8 June and 21 August 2007.				
Quality control:	To standardize voltage settings across samples acquired on different days, single stained controls were included. Voltages were adjusted such that fluorescence intensity was identical for each antibody, regardless of date of acquisition.				

Experiment variables

Individuals

a2006_O1T2pb05i_A1_A01.fcs · a2006_O1T2pb05i_A2_A02.fcs · a2006_O1T2pb05i_A3_A03.fcs · a2006_O1T2pb05i_A4_A04.fcs · a2006_O1T2pb05i_A5_A05.fcs · a2006_O1T2pb05i_A6_A06.fcs · a2006_O1T2pb05i_A7_A07.fcs · a2006_O1T2pb05i_A8_A08.fcs · a2006_O1T2pb05i_B1_B01.fcs · a2006_O1T2pb05i_B2_B02.fcs · a2006_O1T2pb05i_B3_B03.fcs · a2006_O1T2pb05i_B4_B04.fcs · a2006_O1T2pb05i_B5_B05.fcs · a2006_O1T2pb05i_B6_B06.fcs · a2006_O1T2pb05i_B7_B07.fcs · a2006_O1T2pb05i_B8_B08.fcs ·

- Experiment description is organized into 4 boxes corresponding to the 4 sections of MIFlowCyt

Repository ID:	FR-FCM-ZZZ3
Primary researcher:	Karin Breuer
Experiment dates:	2007-05-30 - 2007-08-21
Keywords:	[Innate Immune Response] [Toll-like rec [MIFlowCyt]
Organizations:	Child & Family Research Institute, Depa University of Washington Medical Cente
Purpose:	The purpose of the experiment presente
Conclusion:	B cells can be identified through a nega Only on the extreme ends of a response not monocyte, mDC or pDC) would this potentially be difficult to interpret if both
Comments:	We set out to compare a negative-gating marker, CD19. We also wanted to asses PAM3CSK4, LPS, and CpG-A ODN 2333. The flow cytometry analyses were perfor
Quality control:	To standardize voltage settings across s fluorescence intensity was identical for e
Experiment variables	
Individuals	
a2006_O1T2pb05i_A1_A01.fcs · a2006_O1T2pb05i_A5_A05.fcs · a2006_O1T2pb05i_B1_B01.fcs · a2006_O1T2pb05i_B5_B05.fcs · a2006_O	

MIFlowCyt - Publicly available experiment - Overview
✕

The Experiment Overview displays basic information about the experiment including details required by MIFlowCyt, section 1. Specifically, these details are displayed:

Repository ID - Each experiment (dataset) is assigned a unique repository identifier. The identifier is typically the form of FR-FCM-xxxx where xxxx is a sequence of four alphanumeric characters (case sensitive). Knowing the repository identifier, a public view of a public experiment can be accessed directly by a URL in the form of <https://flowrepository.org/id/FR-FCM-xxxx>, e.g., <https://flowrepository.org/id/FR-FCM-ZZZ3>.

Experiment name - The name of the experiment as provided by the data uploader.

MIFlowCyt score - A value between 0% and 100% that reflects the compliance of provided annotation with MIFlowCyt.

Primary researcher - The person doing the experiment.

PI/manager - The person responsible for the project.

Uploaded by - The person who uploaded the dataset.

Experiment dates - When was the experiment done, including preparation and data acquisition and analysis.

Dataset uploaded - When was the dataset originally uploaded.

Last updated - When was the annotation last updated.

Keywords - Key terms characterizing the experiment.

Pubmed IDs - Pubmed identifiers of any publications associated with this dataset.

Organizations - Organizations involved in this experiment.

- Mousing over an "i" will display a related help topic
- The "x" closes the pop-up window
- Arrows on the left in title bars collapse and restore panels

Reviewing flow sample details

- Scroll down to see additional information

Flow Sample/Specimen Details 1

Choose an FCS file to display details for:

a2006_O1T2pb05i_A1_A01.fcs :

Description	Blood was drawn via sterile venipuncture into vacutainers containing 143 USP units of sodium-heparin (Becton Dickinson (BD); catalog no. 8019839). Peripheral blood mononuclear cells (PBMC) were isolated by density gradient centrifugation as described in Jansen et al., J Immunol Methods 2008; 336(2): 183-192.
Sample source:	[biological] Human peripheral blood · Homo sapiens · 22 · years · unknown · healthy · None
Sample characteristic:	Expected/analyzed types of cells: monocytes, myeloid dendritic cells, plasmacytoid dendritic cells, B lymphocytes. T lymphocytes will also be present but not analyzed. Red blood cells are not present as they are lysed when samples are frozen in FACSlyse solution.
Sample treatment:	see attached file 'plate map'
Staining:	Cell surface protein, CD11c, APC (BD Biosciences BD#340714) Intracellular Protein, TNF α , Alexa 700 (BD Biosciences BD#557996) Cell Surface Protein, CD14, PE-Cy7 (eBioscience eBio#25-0149) Cell Surface Protein, MHCII, PerCPy5.5 (BD Biosciences BD#custom) Intracellular Protein, IFN α , FITC/OG (Antigenix Antigenix#MC100133) Intracellular Protein, IL6, APC-Cy7 (BD Biosciences BD#custom) Cell Surface Protein, CD123, AmCyan (BD Biosciences BD#custom) Intracellular Protein, IL12p40/70, Pacific Blue (eBioscience eBio#577129)

Instrumentation details and data analysis

Flow Cytometer Details



BD FACSAria II, Becton Dickinson (BD Biosciences) used for:

[A02 details](#) · [2nd Settings details](#) · [A04 details](#) · [A06 details](#) · [A07 details](#) · [A08 details](#) · [A09 details](#) · [B01 details](#) · [B02 details](#) · [B03 details](#) · [B04 details](#) · [B06 details](#) · [B07 details](#) · [B08 details](#) · [B09 details](#) · [B10 details](#) · [B11 details](#) · [C01 details](#) · [C02 details](#) · [C03 details](#) · [C04 details](#) · [C06 details](#) · [C07 details](#) · [C08 details](#) · [C09 details](#) · [D01 details](#) · [D02 details](#) · [D03 details](#) · [D04 details](#) · [D06 details](#) · [D07 details](#) · [D08 details](#) · [E04 details](#) · [E05 details](#) · [E06 details](#) · [E07 details](#) · [E08 details](#) · [F07 details](#) · [F08 details](#) · [F09 details](#) · [F10 details](#) · [G07 details](#) · [G08 details](#) · [G09 details](#) · [H01 details](#) · [H08 details](#) · [H09 details](#) · [H10 details](#) · [A01 details](#)

Instrument model: BD FACSAria II
Manufacturer: Becton Dickinson (BD Biosciences)
Flow Cell Type: Quartz cuvette
Other flow fluidics details: 160-um x 250-um, 15-mm long
Optical Paths: [[FSC-H - FSC-Height](#)] [[SSC-H - SSC-Height](#)] [[FL1-H - CD45RA FITC](#)] [[FL2-H - CD45RO PE](#)] [[FL2-A - FL2-A](#)] [[FL3-H - CD3 PerCP](#)] [[FL4-H - CD8 APC](#)]
Installation dates of filters in Optical Paths: When the instrument was bought in May 2007.


Data Analysis Details



Choose which illustration to display:


Download


- Panels on the left allow you to download
 - Data
 - Attachments
 - Saved illustrations
 - Gates (in Gating-ML)
 - MIFlowCyt reports


▼ Download 

FCS files
[Download FCS Files](#)

Public illustrations

Case 1 APC vs. PerCP  [_PDF](#)


Case 1 PE vs. PerCP  [_PDF](#)

Case 1 FITC vs. PerCP  [_PDF](#)

Attachments
[CSI-](#)
[Portland_Tembhare_Case_1_Analysis.pdf](#)
[Tembhare_Case_1_History.doc](#)

Gating
[Export Gating-ML](#)

▼ MIFlowCyt Report

[Print view](#)  [_PDF](#)

Download FCS files – make sure Java is allowed to run

The screenshot shows a web browser window with two tabs: 'FlowRepository - Identifi...' and 'FlowRepository - Test 01...'. The address bar displays 'https://flowrepository.org/experiments/3/download_files'. A security warning banner at the top reads 'java needs your permission to run.' with buttons for 'Always run on this site', 'Run this time', and 'Learn more'. The FlowRepository logo is visible in the top left, and a 'Login' link is in the top right. Below the logo, a blue bar contains the text 'Experiment: Identification of B cells through negative gating ID: FR:FCM-ZZZ3 Primary Researcher: Karin Breuer' and a green bar shows 'MIFlowCyt Score: 89.83%'. A navigation bar includes a button for 'Back to Experiment Public View' and a green 'Instructions' button. The main content area is titled 'Download Experiment Files' and contains a large grey box with a puzzle piece icon and the text 'Java needs your permission to run.' A mouse cursor is hovering over a 'java' icon in the bottom right corner of the grey box. At the bottom of the page, there are links for 'Terms of Service', 'Privacy Policy', 'Support', and 'Feedback'.

Download FCS files

FlowRepository - Identifi x FlowRepository - Test 01 x

https://flowrepository.org/experiments/3/download_files

FlowRepository Login

Experiment: Identification of B cells through negative gating ID: [FR-FCM-7773](#) Primary Researcher: Karin Breuer MIFlowCyt Score: 89.83%

[← Back to Experiment Public View](#) **Instructions**

Download Experiment Files

No folder selected. Click on 'Browse for Folder...' to select a folder.

Filename	FCS Version	Download?
a2006_01T2pb05i_A1_A01.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A2_A02.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A3_A03.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A4_A04.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A5_A05.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A6_A06.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A7_A07.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A8_A08.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B1_B01.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B2_B02.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B3_B03.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B4_B04.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B5_B05.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B6_B06.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B7_B07.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B8_B08.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_C1_C01.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_C2_C02.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>

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Download FCS files – select download destination

FlowRepository - Identifi x FlowRepository - Test 01 x

https://flowrepository.org/experiments/3/download_files

FlowRepository Login

Experiment: Identification of B cells through negative gating ID: FR-FCM-7773 Primary Researcher: Karin Breuer MIFlowCyt Score: 89.83%

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Filename	FCS Version	Download?
a2006_01T2pb05i_A1_A01.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A2_A02.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A3_A03.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A4_A04.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A5_A05.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A6_A06.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A7_A07.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A8_A08.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B1_B01.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B2_B02.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B3_B03.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B4_B04.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B5_B05.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B6_B06.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B7_B07.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B8_B08.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_C1_C01.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_C2_C02.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>

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The screenshot shows a web browser window with the URL https://flowrepository.org/experiments/3/download_files. The page header includes the FlowRepository logo and a 'Login' link. Below the header, there is an experiment summary: 'Experiment: Identification of B cells through negative gating', ID: FR-FCM-7773, Primary Researcher: Karin Breuer, and a 'MIFlowCyt Score: 89.83%'. A navigation bar contains a 'Back to Experiment Public View' button and an 'Instructions' dropdown menu.

The main content area is titled 'Download Experiment Files' and contains a 'Browse For Folder...' button and a 'Download Selected Files' button. Below these are four selection buttons: 'Select All', 'Deselect All', 'Select Flow Files', and 'Deselect Flow Files'. A table lists the files for download:

Filename	FCS Version	Download?
a2006_01T2pb05i_A1_A01.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A2_A02.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A3_A03.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A4_A04.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A5_A05.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A6_A06.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A7_A07.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A8_A08.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B1_B01.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B2_B02.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B3_B03.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B4_B04.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B5_B05.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B6_B06.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B7_B07.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B8_B08.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_C1_C01.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_C2_C02.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>

At the bottom of the table area, there is a 'Download Progress:' indicator showing 20% completion.

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FLOWRepository Login

Experiment: Identification of B cells through negative gating ID: FR-FCM-7773 Primary Researcher: Karin Breuer MIFlowCyt Score: 89.83%

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Filename	FCS Version	Download?
a2006_01T2pb05i_A1_A01.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A2_A02.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A3_A03.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A4_A04.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A5_A05.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A6_A06.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A7_A07.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A8_A08.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B1_B01.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B2_B02.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B3_B03.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
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a2006_01T2pb05i_B7_B07.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B8_B08.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_C1_C01.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_C2_C02.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>

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Experiment: Identification of B cells through negative gating ID: FR-FCM-7773 Primary Researcher: Karin Breuer MIFlowCyt Score: 89.83%

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Filename	FCS Version	Download?
a2006_01T2pb05i_A1_A01.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A2_A02.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A3_A03.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A4_A04.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A5_A05.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A6_A06.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A7_A07.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A8_A08.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B1_B01.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B2_B02.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B3_B03.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B4_B04.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
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a2006_01T2pb05i_C2_C02.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>

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The screenshot shows a web browser window with the URL https://flowrepository.org/experiments/3/download_files. The page header includes the FlowRepository logo and a 'Login' link. Below the header, there is an experiment summary: 'Experiment: Identification of B cells through negative gating', 'ID: FR-FCM-7773', 'Primary Researcher: Karin Breuer', and 'MIFlowCyt Score: 89.83%'. A green 'Instructions' bar is visible, along with a 'Back to Experiment Public View' button.

The main content area is titled 'Download Experiment Files' and contains a 'Browse For Folder...' button and a 'Download Selected Files' button. Below these are four selection buttons: 'Select All', 'Deselect All', 'Select Flow Files', and 'Deselect Flow Files'. A table lists the files for download:

Filename	FCS Version	Download?
a2006_01T2pb05i_A1_A01.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A2_A02.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A3_A03.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A4_A04.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A5_A05.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A6_A06.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A7_A07.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A8_A08.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
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a2006_01T2pb05i_B2_B02.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B3_B03.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B4_B04.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B5_B05.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B6_B06.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B7_B07.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B8_B08.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
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a2006_01T2pb05i_C2_C02.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>

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Experiment: Identification of B cells through negative gating ID: [FR-FCM-7773](#) Primary Researcher: Karin Breuer MIFlowCyt Score: 89.83%

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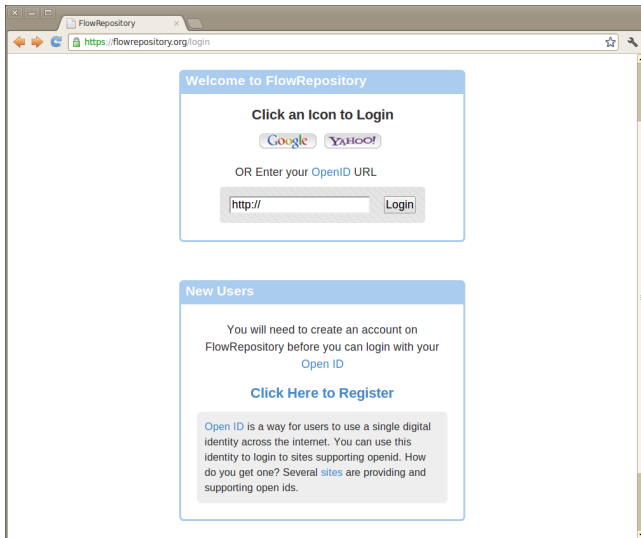
Download files to /home/špidlen/Data From FlowRepository

Filename	FCS Version	Download?
a2006_01T2pb05i_A1_A01.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A2_A02.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A3_A03.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A4_A04.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A5_A05.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A6_A06.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A7_A07.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_A8_A08.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B1_B01.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B2_B02.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B3_B03.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
a2006_01T2pb05i_B4_B04.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>
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a2006_01T2pb05i_C2_C02.fcs - a2006_01T2pb05i	FCS3.0	<input checked="" type="checkbox"/>

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Register for FlowRepository

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First Name

Last Name

Contact Email

Use the address you want to receive FlowRepository email (e.g. jane@companyx.com or john@institution.org)

Privacy Do not display my email address to other users

Open ID Provider

Optional Information

Location

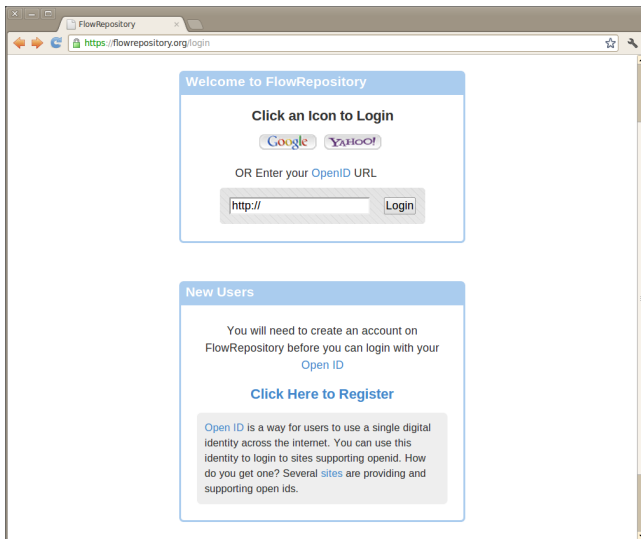
Company/Organization

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I agree to the [FlowRepository Terms Of Service](#)



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Welcome to FlowRepository

Click an Icon to Login

OR Enter your **OpenID URL**

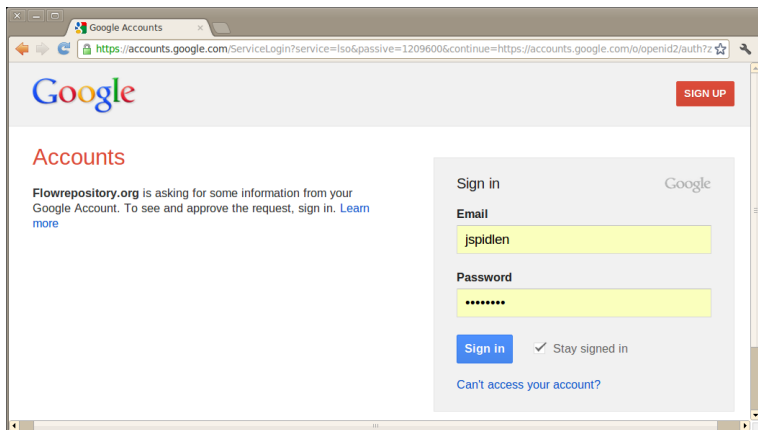
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You will need to create an account on FlowRepository before you can login with your Open ID

[Click Here to Register](#)

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Login



- Typically only the first time or if you are currently not logged in your *Google* account.

[Create a New Experiment](#)

Credits Available: 48/50

[Request More Credits](#)
 Filter Experiments 1
[All experiments](#) (13)[My experiments](#) (7)[My uploaded experiments](#) (3)[Public experiments](#) (8)[Trash](#) (0)
 Top Experiment Variables 1
Conditions [\(Show More\)](#)[Accuri C6](#) (1)[ami](#) (1)[Astros](#) (1)Individuals [\(Show More\)](#)[1](#) (1)[10](#) (1)[100](#) (1)

Sample Type

[Beads](#) (1)[Env](#) (1)[Regular](#) (1)
 Top Channels 1

 My Labels 1

Did you know?

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A guide to Cytobank is available at [Current Protocols in Cytometry](#).

We also have a [Quick start guide](#).

You can print/save your Illustrations to PDF from the illustration view's left menu.

You can export your data to Excel from the Experiment Summary page.

Give other users full control to modify your experiments through the "Sharing Permissions" box.

Use the "Download Files" button to save copies of the original FCS Files to your computer.

 Getting Started: Experiment Inbox ×

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For more tips and guides please see:

- [FlowRepository Quick start guide](#)
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 Public Experiments (8) 1

 Select Label: [Apply Label](#) [Delete Experiments](#)
Search:

	Experiment Name	Repository ID	FCS Files	PR	Project	MIFlowCyt Score
<input type="checkbox"/>	P Identification of B cells through negative gating	FR-FCM-ZZZ3	284	Karin Breuer		<div style="width: 100%;"><div style="width: 100%;"></div></div>
<input type="checkbox"/>	P FCS collection for software testing	FR-FCM-ZZZ4	34	Ryan Brinkman	Community datasets	<div style="width: 50%;"><div style="width: 50%;"></div></div>
<input type="checkbox"/>	P Human early preterm and full term cord blood study	FR-FCM-ZZZA	6	Francesca D'Alessio	Human early preterm and full term cord blood	<div style="width: 50%;"><div style="width: 50%;"></div></div>
<input type="checkbox"/>	P Flow Cytometer Sensitivity: A Quadratic Model	FR-FCM-ZZY7	71	Faysal El Khettabi		<div style="width: 50%;"><div style="width: 50%;"></div></div>
<input type="checkbox"/>	P ICCS CSI Portland 2011 Case 1	FR-FCM-ZZZF	9	Fiona Craig	ICCS CSI Portland 2011	<div style="width: 20%;"><div style="width: 20%;"></div></div>
<input type="checkbox"/>	P ICCS CSI Portland 2011 Case 3	FR-FCM-ZZZE	7	Fiona Craig	ICCS CSI Portland 2011	<div style="width: 20%;"><div style="width: 20%;"></div></div>
<input type="checkbox"/>	P ICCS CSI Portland 2011 Case 2	FR-FCM-ZZZG	2	Fiona Craig	ICCS CSI Portland 2011	<div style="width: 20%;"><div style="width: 20%;"></div></div>
<input type="checkbox"/>	P ICCS CSI Portland 2011 Case 4	FR-FCM-ZZZH	12	Fiona Craig	ICCS CSI Portland 2011	<div style="width: 20%;"><div style="width: 20%;"></div></div>

Showing 1 to 8 of 8 entries

Experiment: Identification of B cells through negative gating ID: [FR-FCM-ZZZ3](#) Labels: None Primary Researcher: [Karlin Breuer](#) Public: Yes

MIFlowCyt Score: 89.83%

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Getting Started: Experiment Details

This Experiment Details Page contains information about the experiment listed above.

- [Start describing samples](#)
- [Add flow cytometer information](#)
- [Review experiment variables](#)
- [Analyze your data on-line](#)
- [Review MIFlowCyt annotation](#)
- [Download FCS files](#)

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Experiment
[Edit Experiment Details](#)
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[De-identify FCS Files](#)
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Experiment Details

Experiment: Identification of B cells through negative gating (FR-FCM-ZZZ3)
MIFlowCyt Score: 89.83% [\[Details\]](#)
Keywords: [Innate Immune Response] [Toll-like receptors] [Activation markers] [B cells] [MIFlowCyt]
Labels: None
Pubmed IDs: [\[20131398\]](#)

Primary Researcher:  [Karlin Breuer](#)
PI Manager:  [Karlin Breuer](#)
Uploaded By:  [Karlin Breuer](#)
Organizations: [Child & Family Research Institute](#) [University of Washington Medical Center](#)

Start date: 2007-05-30
End date: 2007-08-21
Created: Apr 2011

Purpose: The purpose of the experiment presented here was to test whether human B cells can be identified through a negative-gating strategy.

Conclusion: B cells can be identified through a negative-gating strategy. Specifically, B lymphocytes are the MHC II+, CD14neg, CD11cneg, and CD123neg cells. Only on the extreme ends of a response spectrum (i.e., either none of the B cells respond to a given innate stimulation or almost all B cells respond but not monocyte, mDC or pDC) would this B cell negative-gating strategy supply acceptable data. In other words, our negative-gating strategy would potentially be difficult to interpret if both B cell and non-B cell populations responded in low frequency.

Comments: We set out to compare a negative-gating strategy to identify B cells with the usual positive identification of these cells using the canonical B cell surface marker, CD19. We also wanted to assess the functional response of these B cells to Toll-like receptor stimulation using the following TLR ligands: Pam3CSK4, LPS, and CpG-A ODN 2336. The blood draws, PBMC isolation, and TLR stimulations were performed between 30 May and 5 June 2007. The flow cytometry analyses were performed between 8 June and 21 August 2007.

QC Experiment: None
QC measures: To standardize voltage settings across samples acquired on different days, single stained controls were included. Voltages were adjusted such that fluorescence intensity was identical for each antibody, regardless of date of acquisition.

Permissions: OK.

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populations responded in low frequency.

QC Experiment: None

QC measures: To standardize voltage settings across samples acquired on different days, single stained controls were included. Voltages were adjusted such that fluorescence intensity was identical for each antibody, regardless of date of acquisition.

Illustrations

Name	Active Dimensions		Author	Created	Updated	
Test illustration #1	Channels (2) x Populations (1) x Individuals (5) x Plate (5)	Print View	PDF	Karin Breuer	Apr 2011	
Josefs Working Illustration	Individuals (5) x Conditions (0) x Sample Types (0)	Print View	PDF	Josef Spidien	Nov 2011	Jan 2012
Karin's Working Illustration	Channels (2) x Populations (1) x Individuals (5) x Plate (5)	Print View	PDF	Karin Breuer	May 2011	May 2011

[Reset Working Illustration](#)

Attachments

File Name	Date	Uploaded By	Size	md5sum
a2006analysis.jo a2006 FlowJo analysis file	Apr 2011	Karin Breuer	14.4 MB	d8a8ab5...
A2007_Analysis.jo a2007 FlowJo analysis file	Apr 2011	Karin Breuer	13.5 MB	6755643...
A2007_live_gates.jo	Apr 2011	Karin Breuer	634.9 KB	e718a81...
A2008analysis.jo a2008 FlowJo analysis file	Apr 2011	Karin Breuer	13.7 MB	89181af...
A2008livegates.jo	Apr 2011	Karin Breuer	634.4 KB	a0c42d7...
A2009analysis.jo a2009 FlowJo analysis file	Apr 2011	Karin Breuer	13.5 MB	234efec...
A2009livegate.jo	Apr 2011	Karin Breuer	634.3 KB	3b348d9...
A2010Analysis.jo a2010 FlowJo analysis file	Apr 2011	Karin Breuer	13.1 MB	eb2479...
A2010livegate.jo	Apr 2011	Karin Breuer	602.3 KB	157d1bd...
plate_map_for_6hr_ICC_5_concentrations.xlsx plate map	Apr 2011	Karin Breuer	11.9 KB	36546c5...

Attach a file No file chosen

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File Name	Sample	Tube Name	Experiment Variables	Panel	Events	Size
a2006_O1T2pb05i_A1_A01.fcs details	show sample description	A1	a2006, A, 1, a2006 O1T2pb05i	Panel 1	109046	9.2 MB
a2006_O1T2pb05i_A2_A02.fcs details	show sample description	A2	a2006, A, 2, a2006 O1T2pb05i	Panel 1	150000	12.6 MB

A2009livegate jo	Apr 2011	Karin Breuer	634.3 KB	3b348d9...
A2010Analysis jo a2010 FloJo analysis file	Apr 2011	Karin Breuer	13.1 MB	eb24f79...
A2010livegate jo	Apr 2011	Karin Breuer	602.3 KB	157d1bd...
plate_map_for_6hr_ICC_5_concentrations.xlsx plate map	Apr 2011	Karin Breuer	11.9 KB	36546c5...

Attach a file

No file chosen

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File Name	Sample	Tube Name	Experiment Variables	Panel	Events	Size
a2006_O1T2pb05i_A1_A01.fcs details	show sample description	A1	a2006, A 1, a2006 O1T2pb05i	Panel 1	109046	9.2 MB
a2006_O1T2pb05i_A2_A02.fcs details	show sample description	A2	a2006, A 2, a2006 O1T2pb05i	Panel 1	150000	12.6 MB
a2006_O1T2pb05i_A3_A03.fcs details	show sample description	A3	a2006, A 3, a2006 O1T2pb05i	Panel 1	150000	12.6 MB
a2006_O1T2pb05i_A4_A04.fcs details	show sample description	A4	a2006, A 4, a2006 O1T2pb05i	Panel 1	150000	12.6 MB
a2006_O1T2pb05i_A5_A05.fcs details	show sample description	A5	a2006, A 5, a2006 O1T2pb05i	Panel 1	150000	12.6 MB
a2006_O1T2pb05i_A6_A06.fcs details	show sample description	A6	a2006, A 6, a2006 O1T2pb05i	Panel 1	150000	12.6 MB
a2006_O1T2pb05i_A7_A07.fcs details	show sample description	A7	a2006, A 7, a2006 O1T2pb05i	Panel 1	150000	12.6 MB
a2006_O1T2pb05i_A8_A08.fcs details	show sample description	A8	a2006, A 8, a2006 O1T2pb05i	Panel 1	150000	12.6 MB
a2006_O1T2pb05i_B1_B01.fcs details	show sample description	B1	a2006, B 1, a2006 O1T2pb05i	Panel 1	150000	12.6 MB
a2006_O1T2pb05i_B2_B02.fcs details	show sample description	B2	a2006, B 2, a2006 O1T2pb05i	Panel 1	150000	12.6 MB
a2006_O1T2pb05i_B3_B03.fcs details	show sample description	B3	a2006, B 3, a2006 O1T2pb05i	Panel 1	150000	12.6 MB
a2006_O1T2pb05i_B4_B04.fcs details	show sample description	B4	a2006, B 4, a2006 O1T2pb05i	Panel 1	150000	12.6 MB
a2006_O1T2pb05i_B5_B05.fcs details	show sample description	B5	a2006, B 5, a2006 O1T2pb05i	Panel 1	150000	12.6 MB
a2006_O1T2pb05i_B6_B06.fcs details	show sample description	B6	a2006, B 6, a2006 O1T2pb05i	Panel 1	150000	12.6 MB
a2006_O1T2pb05i_B7_B07.fcs details	show sample description	B7	a2006, B 7, a2006 O1T2pb05i	Panel 1	150000	12.6 MB
a2006_O1T2pb05i_B8_B08.fcs details	show sample description	B8	a2006, B 8, a2006 O1T2pb05i	Panel 1	150000	12.6 MB
a2006_O1T2pb05i_C1_C01.fcs details	show sample description	C1	a2006, C 1, a2006 O1T2pb05i	Panel 1	150000	12.6 MB
a2006_O1T2pb05i_C2_C02.fcs details	show sample description	C2	a2006, C 2, a2006 O1T2pb05i	Panel 1	150000	12.6 MB
a2006_O1T2pb05i_C3_C03.fcs details	show sample description	C3	a2006, C 3, a2006 O1T2pb05i	Panel 1	150000	12.6 MB
a2006_O1T2pb05i_C4_C04.fcs details	show sample description	C4	a2006, C 4, a2006 O1T2pb05i	Panel 1	150000	12.6 MB
a2006_O1T2pb05i_C5_C05.fcs details	show sample description	C5	a2006, C 5, a2006 O1T2pb05i	Panel 1	150000	12.6 MB
a2006_O1T2pb05i_C6_C06.fcs details	show sample description	C6	a2006, C 6, a2006 O1T2pb05i	Panel 1	150000	12.6 MB
a2006_O1T2pb05i_C7_C07.fcs details	show sample description	C7	a2006, C 7, a2006 O1T2pb05i	Panel 1	150000	12.6 MB
a2006_O1T2pb05i_C8_C08.fcs details	show sample description	C8	a2006, C 8, a2006 O1T2pb05i	Panel 1	150000	12.6 MB
a2006_O1T2pb05i_D1_D01.fcs details	show sample description	D1	a2006, D 1, a2006 O1T2pb05i	Panel 1	150000	12.6 MB
a2006_O1T2pb05i_D2_D02.fcs details	show sample description	D2	a2006, D 2, a2006 O1T2pb05i	Panel 1	150000	12.6 MB
a2006_O1T2pb05i_D3_D03.fcs details	show sample description	D3	a2006, D 3, a2006 O1T2pb05i	Panel 1	150000	12.6 MB
a2006_O1T2pb05i_D4_D04.fcs details	show sample description	D4	a2006, D 4, a2006 O1T2pb05i	Panel 1	150000	12.6 MB

Show sample description

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1

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File Name	Sample	Tube Name	Experiment Variables	Panel	Events	Size
a2006_O1T2pb05i_A1_A01.fcs details	show sample description	A1	a2006, A, 1, a2006 O1T2pb05i	Panel 1	109046	9.2 MB
a2006_O1T2pb05i_A2_A02.fcs details	show sample de			Panel 1	150000	12.6 MB
a2006_O1T2pb05i_A3_A03.fcs details	show sample de			Panel 1	150000	12.6 MB
a2006_O1T2pb05i_A4_A04.fcs details	show sample de			Panel 1	150000	12.6 MB
a2006_O1T2pb05i_A5_A05.fcs details	show sample de			Panel 1	150000	12.6 MB
a2006_O1T2pb05i_A6_A06.fcs details	show sample de			Panel 1	150000	12.6 MB
a2006_O1T2pb05i_A7_A07.fcs details	show sample de			Panel 1	150000	12.6 MB
a2006_O1T2pb05i_A8_A08.fcs details	show sample de			Panel 1	150000	12.6 MB
a2006_O1T2pb05i_B1_B01.fcs details	show sample de			Panel 1	150000	12.6 MB
a2006_O1T2pb05i_B2_B02.fcs details	show sample de			Panel 1	150000	12.6 MB
a2006_O1T2pb05i_B3_B03.fcs details	show sample de			Panel 1	150000	12.6 MB
a2006_O1T2pb05i_B4_B04.fcs details	show sample de			Panel 1	150000	12.6 MB
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a2006_O1T2pb05i_B6_B06.fcs details	show sample de			Panel 1	150000	12.6 MB
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a2006_O1T2pb05i_C4_C04.fcs details	show sample de			Panel 1	150000	12.6 MB
a2006_O1T2pb05i_C5_C05.fcs details	show sample description	C5	a2006, C, 5, a2006 O1T2pb05i	Panel 1	150000	12.6 MB

Description: Blood was drawn via sterile venipuncture into vacutainers containing 143 USP units of sodium-heparin (Becton Dickinson (BD); catalog no. 8019839). Peripheral blood mononuclear cells (PBMC) were isolated by density gradient centrifugation as described in Jansen et al., J Immunol Methods 2008; 336(2): 183-192.

Sample source: [biological] Human peripheral blood

Sample characteristic: Expected/analyzed types of cells: monocytes, myeloid dendritic cells, plasmacytoid dendritic cells, B lymphocytes. T lymphocytes will also be present but not analyzed. Red blood cells are not present as they are lysed when samples are frozen in FACSLyse solution.

Sample treatment: see attached file 'plate map'

Sample staining: [Cell surface protein, CD11c, APC (BD Biosciences BD#340714)] [Intracellular Protein, TNFa, Alexa 700 (BD Biosciences BD#557996)] [Cell Surface Protein, CD14, PE-Cy7 (eBioscience eBio#25-0149)] [Cell Surface Protein, MHCII, PerCPcy5.5 (BD Biosciences BD#custom)] [Intracellular Protein, IFNa, FITC/OG (Antigenix Antigenix#MC100133)] [Intracellular Protein, IL6, APC-Cy7 (BD Biosciences BD#custom)] [Cell Surface Protein, CD123, AmCyan (BD Biosciences BD#custom)] [Intracellular Protein, IL12p40/70, Pacific Blue (eBioscience eBio#577129)]

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Review MIFlowCyt compliance details

Approximated by MIFlowCyt score

- Automatically calculated value between 0% and 100%

Section	MIFlowCyt score contribution
Experiment Overview	30%
Flow Sample/Specimen Details	30%
Instrument Details	20%
Data Analysis Details	20%

- Click on the MIFlowCyt Score bar to review the details

Welcome,  Josef [Logout](#)

MIFlowCyt Score: 89.83%

Experiment: Identification of B cells through negative gating ID: [FR-FCM-ZZZ3](#) Labels: None Primary Researcher: [Karin Breuer](#) Public: Yes

MIFlowCyt Score: 89.83%

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MIFlowCyt

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MIFlowCyt Compliance Score for Experiment: Identification of B cells through negative gating -

Repository ID: FR-FCM-ZZZ3

Total MIFlowCyt compliance score: 89.83%

1 - Experiment Overview - 92.50% provided

Items considered relatively based on importance, 30% contribution to total score.

Item	Compliance [+ -]
Purpose	✓
Keywords	✓
Experiment variables	✓
Organization	✓
Contact	✓
Date	✓
Conclusions	✓
Quality control measures	✓

2 - Flow Sample/Specimen Details - 73.59% provided

Items considered relatively based on importance, 30% contribution to total score.

FCS file	Compliance [+ -]
a2006_O1T2pb05i_A1_A01.fcs	✓
a2006_O1T2pb05i_A2_A02.fcs	✓
a2006_O1T2pb05i_A3_A03.fcs	✓
a2006_O1T2pb05i_A4_A04.fcs	✓
a2006_O1T2pb05i_A5_A05.fcs	✓

Upload and annotation of your own dataset

Typical steps

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- 3 Prepare annotation templates
 - Or prepare spreadsheets with annotations
- 4 Annotate the experiment
 - Describe samples and sample sources
 - Provide experimental variables
 - Describe instrumentation settings
- 5 Provide analysis details
 - Either analyze data online and create illustrations
 - Or upload third party analysis files (e.g., FlowJo™ workspaces, FCS Express™ project files, FACS Diva™ files, etc.)
- 6 Review (and improve) your MIFlowCyt compliance

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- 6 Review (and improve) your MIFlowCyt compliance

Create a new experiment

▼ Bank New Experiment

* Experiment Name

Project

* Primary Researcher



Nima Aghaeepour

* PI/Manager



Mario Roederer [invite a new user](#)

Allow PI/Manager to have full access to experiment ✓

* Starting Date  (yyyy-mm-dd)

End Date  (yyyy-mm-dd)

(optional)

* Purpose

Create a new experiment (continued)

Conclusion
(optional)

Several immunophenotypes correlated with the survival times were identified. Details about this would typically be listed here but I am not at liberty to share this information during this talk.

Comments
(optional)

For reagent and instrument details as well as the original manual gating strategy please see: Ganesan and Chattopadhyay et al., Immunologic and virologic events in early HIV infection predict subsequent rate of progression. Journal of Infectious Diseases, 2010;201:272–284.

Quality Control Measures
(optional)

Per-channel empirical distribution comparison

Quality Control Experiment
(optional)

-- None -- ▾

Create a new experiment (continued)

Keywords (optional)

Organizations (optional)

[Add new organization](#)

Pubmed IDs (optional)

*** required field**

Adding new organization

New organization details ✕

Name *	<input type="text" value="University of Toronto"/>
Department	<input type="text" value="Department of Cell & Systems Biology"/>
Zip (postal code)	<input type="text" value="M5S 3G5"/> <small>Loading ...</small>
Address line #1	<input type="text"/>
Address line #2	<input type="text"/>
Address line #3	<input type="text"/>
City *	<input type="text"/>
State (province)	<input type="text"/>
Country*	<input type="text"/>

Powered by [Geonames](#)

- Auto-complete based on ZIP supported for 60 countries
- Country is assumed based on your location unless specified in the Country field

Adding new organization

New organization details ✕

Name *	<input type="text" value="University of Toronto"/>
Department	<input type="text" value="Department of Cell & Systems Biology"/>
Zip (postal code)	<input type="text" value="M5S 3G5"/>
Address line #1	<input type="text"/>
Address line #2	<input type="text"/>
Address line #3	<input type="text"/>
City *	<input type="text" value="Toronto"/>
State (province)	<input type="text" value="Ontario"/>
Country*	<input type="text" value="Canada"/>

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Upload and annotation of your own dataset

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 - Either analyze data online and create illustrations
 - Or upload third party analysis files (e.g., FlowJo™ workspaces, FCS Express™ project files, FACS Diva™ files, etc.)
- 6 Review (and improve) your MIFlowCyt compliance

Data upload

Experiment: IDCRP's HIV Natural History Study ID: FR-FCM-ZZB Labels: None Primary Researcher: [Nima Azharpour](#) Public: No MIFlowCyt Score: 0.00%

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Filename	FCS Version	Upload?

Upload Progress:

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Data upload

Experiment: IDCRP's HIV Natural History Study

ID: FR-FCM-ZZZB

Labels: None

Primary Researcher: [Nima Aghaepour](#)

Public: No

MIFlowCyt Score: 0.00%

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Select Flow Files

Deselect Flgw Files

 De-identify all FCS files before uploading

Files:

Filename	FCS Version	Upload?
203037.fcs - 203037.fcs	FCS2.0	<input checked="" type="checkbox"/>
797946.fcs - 797946.fcs	FCS2.0	<input checked="" type="checkbox"/>
922911.fcs - 922911.fcs	FCS2.0	<input checked="" type="checkbox"/>
802565.fcs - 802565.fcs	FCS2.0	<input checked="" type="checkbox"/>
643079.fcs - 643079.fcs	FCS2.0	<input checked="" type="checkbox"/>
351452.fcs - 351452.fcs	FCS2.0	<input checked="" type="checkbox"/>
334791.fcs - 334791.fcs	FCS2.0	<input checked="" type="checkbox"/>
294897.fcs - 294897.fcs	FCS2.0	<input checked="" type="checkbox"/>
319267.fcs - 319267.fcs	FCS2.0	<input checked="" type="checkbox"/>
251284.fcs - 251284.fcs	FCS2.0	<input checked="" type="checkbox"/>
997430.fcs - 997430.fcs	FCS2.0	<input checked="" type="checkbox"/>
122405.fcs - 122405.fcs	FCS2.0	<input checked="" type="checkbox"/>
846228.fcs - 846228.fcs	FCS2.0	<input checked="" type="checkbox"/>
130119.fcs - 130119.fcs	FCS2.0	<input checked="" type="checkbox"/>
306870.fcs - 306870.fcs	FCS2.0	<input checked="" type="checkbox"/>
978630.fcs - 978630.fcs	FCS2.0	<input checked="" type="checkbox"/>

Upload Progress: 0%

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Data upload - de-identification

De-identify all FCS files before uploading

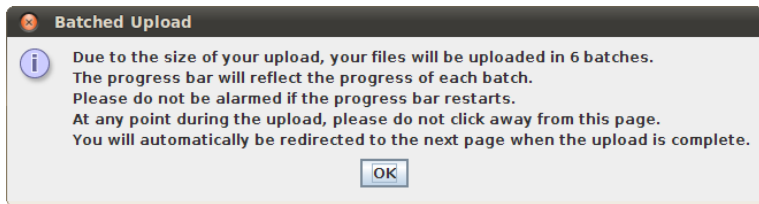
De-identification

- Remove identifiers that could be used to identify an individual
- Generally, privacy rules do not apply on de-identified data
 - Allows for sharing
 - Check with your regulatory authority as applicable, e.g., Health Insurance Portability and Accountability Act (HIPAA)

Implementation in FlowRepository

- Automated removal of all keyword values unless in our *safe* list
 - Safe list: Over 220 keywords identified from a few hundred FCS data files produced by dozens of instruments from several vendors
- Integrated in the upload process
 - Performed locally → no sensitive information leaves your computer

Data upload (large dataset)



- In our example, we are uploading 11 GB of data
- This message is only shown for uploads larger than 2 GB

Data upload

Experiment: IDCRC's HIV Natural History Study

ID: FR-FCM-ZZZB

Labels: None

Primary Researcher: [Nima Aghazadehpour](#)

Public: No

MIFlowCyt Score: 0.00%

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▶ Getting Started!

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Uploading batch 1 of 6...

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203037.fcs - 203037.fcs	FCS2.0	<input checked="" type="checkbox"/>
797946.fcs - 797946.fcs	FCS2.0	<input checked="" type="checkbox"/>
922911.fcs - 922911.fcs	FCS2.0	<input checked="" type="checkbox"/>
802565.fcs - 802565.fcs	FCS2.0	<input checked="" type="checkbox"/>
643079.fcs - 643079.fcs	FCS2.0	<input checked="" type="checkbox"/>
351452.fcs - 351452.fcs	FCS2.0	<input checked="" type="checkbox"/>
334791.fcs - 334791.fcs	FCS2.0	<input checked="" type="checkbox"/>
294897.fcs - 294897.fcs	FCS2.0	<input checked="" type="checkbox"/>
319267.fcs - 319267.fcs	FCS2.0	<input checked="" type="checkbox"/>
251284.fcs - 251284.fcs	FCS2.0	<input checked="" type="checkbox"/>
997430.fcs - 997430.fcs	FCS2.0	<input checked="" type="checkbox"/>
122405.fcs - 122405.fcs	FCS2.0	<input checked="" type="checkbox"/>
846228.fcs - 846228.fcs	FCS2.0	<input checked="" type="checkbox"/>
130119.fcs - 130119.fcs	FCS2.0	<input checked="" type="checkbox"/>
306870.fcs - 306870.fcs	FCS2.0	<input checked="" type="checkbox"/>
978630.fcs - 978630.fcs	FCS2.0	<input checked="" type="checkbox"/>

Upload Progress: [Terms of Service](#)[Privacy Policy](#)[Support](#)[Feedback](#)

Data upload

Experiment: IDCRP's HIV Natural History Study

ID: FR-FCM-ZZB

Labels: None

Primary Researcher: [Nima Aghazadehpour](#)

Public: No

MIFlowCyt Score: 0.00%

[← Back to Experiment](#)

▼ Actions

[Delete Experiment](#)

▼ Did you know?

You can request a one-on-one session to get started with your data by filling out a [support ticket](#).

A guide to Cytobank is available at [Current Protocols in Cytometry](#).

We also have a [Quick start guide](#).

You can print/save your illustrations to PDF from the illustration view's left menu.

You can export your data to Excel from the Experiment Summary page.

Give other users full control to modify your experiments through the "Sharing Permissions" box.

Use the "Download Files" button to save copies of the original FCS Files to your computer.

This experiment does not have any FCS files uploaded yet.

▶ Getting Started!

Upload Experiment Files

 De-identify all FCS files before uploading

Upload complete.

Filename	FCS Version	Upload?
203037.fcs - 203037.fcs	FCS2.0	<input checked="" type="checkbox"/>
797946.fcs - 797946.fcs	FCS2.0	<input checked="" type="checkbox"/>
922911.fcs - 922911.fcs	FCS2.0	<input checked="" type="checkbox"/>
802565.fcs - 802565.fcs	FCS2.0	<input checked="" type="checkbox"/>
643079.fcs - 643079.fcs	FCS2.0	<input checked="" type="checkbox"/>
351452.fcs - 351452.fcs	FCS2.0	<input checked="" type="checkbox"/>
334791.fcs - 334791.fcs	FCS2.0	<input checked="" type="checkbox"/>
294897.fcs - 294897.fcs	FCS2.0	<input checked="" type="checkbox"/>
319267.fcs - 319267.fcs	FCS2.0	<input checked="" type="checkbox"/>
251284.fcs - 251284.fcs	FCS2.0	<input checked="" type="checkbox"/>
997430.fcs - 997430.fcs	FCS2.0	<input checked="" type="checkbox"/>
122405.fcs - 122405.fcs	FCS2.0	<input checked="" type="checkbox"/>
846228.fcs - 846228.fcs	FCS2.0	<input checked="" type="checkbox"/>
130119.fcs - 130119.fcs	FCS2.0	<input checked="" type="checkbox"/>
306870.fcs - 306870.fcs	FCS2.0	<input checked="" type="checkbox"/>
978630.fcs - 978630.fcs	FCS2.0	<input checked="" type="checkbox"/>

Upload Progress: [Terms of Service](#)[Privacy Policy](#)[Support](#)[Feedback](#)

Data upload

Welcome,  Josef [Logout](#)

Did you know?

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We also have a [Quick start guide](#).

You can print/save your illustrations to PDF from the Illustration view's left menu.

You can export your data to Excel from the Experiment Summary page.

Give other users full control to modify your experiments through the "Sharing Permissions" box.

Use the "Download Files" button to save copies of the original FCS Files to your computer.

 466 Files successfully uploaded to experiment: IDCRP's HIV Natural History Study!

Processing Uploaded Files

Current Task: Categorizing FCS Files

[Terms of Service](#)

[Privacy Policy](#)

[Support](#)

[Feedback](#)

- Data files will be automatically categorized and assigned to staining panels after the upload

Data upload

◀ Back to Inbox

Actions

[Start An Illustration](#)

[View Experiment Summary](#)

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We also have a [Quick start guide](#).

You can print/save your illustrations to PDF from the illustration view's left menu.

You can export your data to Excel from the Experiment Summary page.

Give other users full control to modify your experiments through the "Sharing Permissions" box.

Use the "Download Files" button to save copies of the original FCS Files to your computer.



466 files were successfully uploaded and categorized for the experiment: IDCRP's HIV Natural History Study!

Getting Started

- Verify that your files have been categorized correctly below. If they are not, go to the [Channel Annotation Page](#) to recategorize them
- [Start An Illustration](#) : go directly to the figure creation page
- [View Experiment Summary](#) : view/edit experiment info and sharing permissions

Experiment Files

100715.fcs (Tube_025)
105696.fcs (Tube_009)
108701.fcs (Tube_001)
109025.fcs (Tube_009)
109567.fcs (Tube_017)
110539.fcs (Tube_022)
113548.fcs (Tube_003)
121069.fcs (Tube_001)

Compensation Controls

Other Controls (Lyocells, Beads, etc)

Experiment: IDCRP's HIV Natural History Study ID: FR-FCM-ZZZB Labels: None Primary Researcher: [Nima Aghaeepour](#) Public: No **MIFlowCyt Score: 31.50%**

[« Back to Inbox](#)

Getting Started: Experiment Details

[My Working Illustration »](#)

[MIFlowCyt Annotation »](#)

Actions

Experiment

[Edit Experiment Details](#)

[Delete Experiment](#)

FCS Files

[Download FCS Files](#)

[Upload More FCS Files](#)

[De-identify FCS Files](#)

[Review Keywords in FCS files](#)

Sharing Permissions

Full Access Users

 [Nima Aghaeepour](#) [PR]

 [Josef Spidlen](#) [x]

 [Ryan Brinkman](#) [x]

[Invite a new user](#)

Share with a User (Full Access)

This experiment is currently **private**.

You can also **create a secret access code** to share with reviewers.

Experiment Details

Illustrations

Name	Active Dimensions	Author	Created	Updated
Josef's Working Illustration	Channels (0) x Populations (1)	 Josef Spidlen	May 2012	May 2012

Attachments

File Name	Date	Uploaded By	Size	md5sum
Attach a file				
<input type="button" value="Choose File"/> No file chosen				
<input type="button" value="Upload"/>				

FCS Files (466)

[Download Files](#) [Upload More Files](#) [De-identify FCS Files](#) [Review Keywords in FCS files](#)

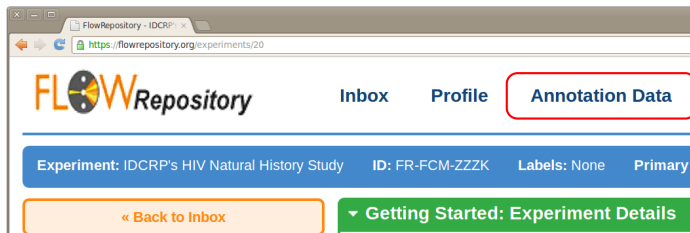
File Name	Sample	Tube Name	Experiment Variables	Panel	Events	Size
100715.fcs details	100715.fcs	Tube_025		Panel 1	65016	4 MB
105696.fcs details	105696.fcs	Tube_009		Panel 1	455184	27.8 MB
108701.fcs details	108701.fcs	Tube_001		Panel 1	1000000	61 MB
109025.fcs details	109025.fcs	Tube_009		Panel 1	210186	12.8 MB
109567.fcs details	109567.fcs	Tube_017		Panel 1	160074	9.8 MB
110539.fcs details	110539.fcs	Tube_022		Panel 1	364212	22.2 MB
113548.fcs details	113548.fcs	Tube_003		Panel 1	177102	10.8 MB
121069.fcs details	121069.fcs	Tube_001		Panel 1	542538	33.1 MB
122405.fcs details	122405.fcs	Tube_010		Panel 1	476208	29.1 MB

Upload and annotation of your own dataset

Typical steps

- 1 Create a new experiment
- 2 Upload data (FCS files)
- 3 Prepare annotation templates
 - Or prepare spreadsheets with annotations
- 4 Annotate the experiment
 - Describe samples and sample sources
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- 6 Review (and improve) your MIFlowCyt compliance

Prepare annotation data



- Follow the Annotation Data link
 - Set of *concepts* applicable to samples even from different datasets

Prepare annotation data – reagents

Actions

- [Add new keyword](#)
- [Add new organization](#)
- [Add new manufacturer](#)
- [Add new reagent](#)
- [Add new instrument](#)
- [Add organism](#)
- [Add new template for samples](#)
- [Add new template for sample sources](#)

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Getting Started with MIFlowCyt Annotations!

Keywords Organizations Manufacturers **Reagents** Instruments Organisms Templates

New reagent

Search:

Analyte	Analyte detector	Analyte reporter	Clone	Catalog nr	Manufacturer		
CD14	anti-CD14	Alexa 700	M5E2	BD#557923	BD Biosciences [website]	Edit	Remove
CD14	anti-CD14	PE-Cy7	M5E2	eBio#25-0149	eBioscience [website]	Edit	Remove
CD14	-	FITC	RMO52	IM0645	Beckman Coulter [website]	Edit	Remove
CD14	-	PE-Cy7	M5E2	557742 1:50	BD Biosciences [website]	Edit	Remove
CD3/CD14	Anti-CD3/CD14	PECy7		-	Unknown	Edit	Remove
VIVID/CD14	N/A	V450		N/A	Custom	Edit	Remove

Showing 1 to 6 of 6 entries (filtered from 110 total entries)

- Define reagents used in the dataset

Prepare annotation data – add reagents

▼ New Reagent

Analyte *	<input type="text" value="CD4"/>
Analyte detector *	<input type="text" value="Anti-CD4"/>
Analyte reporter *	<input type="text" value="PE"/>
Clone	<input type="text" value="13B8.2"/>
Catalog nr *	<input type="text" value="IM0449"/>
Manufacturer *	<input type="text" value="Beckman Coulter"/> New

- Provide details as required by MIFlowCyt

Prepare annotation data – instruments

- Your instrument is most likely in the system already

Keywords
Organizations
Manufacturers
Reagents
Instruments
Organisms
Templates

New instrument

Search:

Model ▲	Manufacturer ▼	Other ▼	▼	▼
A10-Bryte	Apogee Flow Systems http://www.apogeeeflow.com		Edit	Remove
A40-Military	Apogee Flow Systems http://www.apogeeeflow.com		Edit	Remove
A50-Micro	Apogee Flow Systems http://www.apogeeeflow.com		Edit	Remove
A50-Universal	Apogee Flow Systems http://www.apogeeeflow.com		Edit	Remove
Accuri C6	Becton Dickinson (BD Biosciences) http://www.bdbiosciences.com		Edit	Remove
Attune	Applied Biosystems http://www.appliedbiosystems.com		Edit	Remove
Auto-A40	Apogee Flow Systems http://www.apogeeeflow.com		Edit	Remove

Prepare annotation data – organisms

- The NCBI Taxonomy contains hundreds of thousands of organisms
- FlowRepository contains 20,000 of these
 - Selected based on either having a common English name or appearance in GeneBank
- But this is still a long list (for drop down selections)
 - We only show what has been used or explicitly requested

Keywords Organizations Manufacturers Reagents Instruments **Organisms** Templates

Add organism

Search:

NCBI Taxonomy ID ▲	Scientific name ◆	Genbank common name ◆
9606	Homo sapiens	human
10090	Mus musculus	house mouse
10116	Rattus norvegicus	Norway rat

Showing 1 to 3 of 3 entries

Prepare annotation data – add organism

- Follow the Add organism link
- Start typing either the Latin or the English name
- Auto-complete will show suggestions after the first 3 characters

▼ Add organism from NCBI Taxonomy

Organism name or taxonomy ID:
babo

Add this organism

Papio (9554) [baboons]
Papio anubis (9555) [Olive baboon]
Papio cynocephalus (9556) [Yellow baboon]
Papio hamadryas (9557) [hamadryas baboon]
Theropithecus gelada (9565) [gelada baboon]
Mandrillus (9567) [forest

Prepare annotation data – templates

- Start with sample sources

Keywords
Organizations
Manufacturers
Reagents
Instruments
Organisms
Templates

[New annotation template for samples](#)
[New annotation template for sample sources](#)

Search:

Annotation Type ▲	Template Name ◆	User ◆	Public ◆	◆	◆
Sample	Sample template Kollmann #1	Karin Breuer	yes	Show	Remove
Sample	JS Sample 1	Josef Spidlen	no	Show	Remove
Sample source	sample source template Kollmann #1	Karin Breuer	yes	Show	Remove
Sample source	12w MOLD/RkJ M mouse	Josef Spidlen	no	Show	Remove

Showing 1 to 4 of 4 entries

Prepare annotation data – create sample source templates

- Different items required based on the sample source type
- Form changes accordingly
- Use ? for variable fields

Details for sample source template

Sample source type * environmental

Description *

Location *

Other

Cancel Save

Prepare annotation data – create sample source templates

- Different items required based on the sample source type
- Form changes accordingly
- Use ? for variable fields

Details for sample source template

Sample source type *

Description *

Other

Cancel Save

Prepare annotation data – create sample source templates

- Different items required based on the sample source type
- Form changes accordingly
- Use ? for variable fields

The screenshot shows a web form titled "Details for sample source template". The form contains the following fields:

- Sample source type ***: A dropdown menu with "biological" selected.
- Description ***: A text area containing "HIV+ subject".
- Organism ***: A dropdown menu with "Homo sapiens (9606) [human]" selected.
- Age ***: A text input field containing "?".
- Age unit ***: A text input field containing "years".
- Gender ***: A text input field containing "?".
- Phenotype ***: A text input field containing "N/A".
- Genotype ***: A text input field containing "N/A".
- Treatment ***: A text area containing "?".

At the bottom right of the form are two buttons: "Cancel" and "Save".

Prepare annotation data – create sample source templates

- Finally, name and save your *Sample source* template

▼ New Annotation Template

Template type Sample Source

Template HIV+ subject (ID 220)

Template name

Public

Prepare annotation data – create sample templates

Details for sample template ✕

Description *
PBMC from HIV+ Subject

Sample characteristic HIV+ New

Sample treatment New

Staining -- None --
B cells, MHCII, PerCPy5.5 (BD Biosciences BD#custom)
T cells, CD40, FITC/OG (eBioscience eBio#11-0409)
CD14 positive cells, CD14, Alexa 700 (BD Biosciences BD#557923)
CD86, CD86, PE (eBioscience eBio#12-0869) New

Staining cocktail(s) -- None --
Cocktail no. 1 New

Cancel Save

Prepare annotation data – create sample templates

- Describe sample treatment

New sample treatment details ✕

Please note: The first 25 characters are used for shortened display!

Description *

PBMCs were thawed in warm Roswell Park Memorial Institute medium containing 10% fetal calf serum, lglutamine, and penicillin-strep-tomycin (cell culture medium; Gibco) supplemented with 25 kU of Benzonase Nuclease HC (Roche). Cells were washed twice in cell culture medium and allowed to rest overnight. 1.8 million cells were recovered per sample with an average viability of 80%.

Cancel Save

Prepare annotation data – create sample templates

- Define reagents including what characteristics they are measuring, especially if there may be ambiguity, e.g.,
 - Propidium Iodide (PI) with permeabilized cells → DNA content (cell cycle)
 - PI with non-permeabilized cells → cell viability

New reagent details ✕

Characteristic measured *

Other

Used reagent *

Prepare annotation data – create sample templates

- Double-click on a reagent to see details

The screenshot displays the 'Details for sample template' dialog box. The 'Description *' field contains the text 'PBMC from HIV+ Subject'. The 'Sample character' field is partially visible. The 'Sample treat' field is partially visible. The 'Staining cocktail(s)' field is partially visible. A 'Details for Reagent' dialog box is open over the 'Sample treat' field, displaying the following information:

- Characteristic measured: Monocytes identification
- Analyte: CD14
- Analyte detector: anti-CD14
- Analyte reporter: PE-Cy7
- Clone: M5E2
- Catalog nr: eBio#25-0149
- Manufacturer: eBioscience
- Other:

The 'Details for Reagent' dialog box also features a 'New' button. The 'Details for sample template' dialog box has a 'Cancel' button and a 'Save' button at the bottom right.

Prepare annotation data – create sample templates

- Select reagents (and/or cocktails) used
- Hold Ctrl (or Shift) to select multiple items

Details for sample template ✕

Description *
PBMC from HIV+ Subject

Sample characteristic: HIV+ New

Sample treatment: PBMCs were thawed in warm New

Staining:
B cells, MHCII, PerCPCy5.5 (BD Biosciences BD#custom)
T cells, CD40, FITC/OG (eBioscience eBio#11-0409)
CD14 positive cells, CD14, Alexa 700 (BD Biosciences BD#557923)
CD86, CD86, PE (eBioscience eBio#12-0869)
Monocytes identification, CD14, PE-Cy7 (eBioscience eBio#25-0149) New

Staining cocktail(s): -- None --
Cocktail no. 1 New

Cancel Save

Prepare annotation data – create sample templates

- Finally, name and save your *Sample* template

▼ New Annotation Template

Template type Sample

Template PBMC from HIV+ Subject (ID 3581)

Template name

Public

Upload and annotation of your own dataset

Typical steps

- 1 Create a new experiment
- 2 Upload data (FCS files)
- 3 Prepare annotation templates
 - Or prepare spreadsheets with annotations
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 - Describe samples and sample sources
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Prepare spreadsheets with annotations

- Use your favorite spreadsheet editor
 - MS Excel, GoogleDoc Spreadsheet, OpenOffice Calc, etc.
- Name one column as **FCS File**; values should correspond to file names in your dataset
- Other “understandable” columns:
 - **Samples**: Sample Description, Sample Characteristic, Sample Treatment, Sample Source Description, Sample Source Treatment, Age, Age unit, Gender, Phenotype, Genotype, Location, Other Sample Source Information
 - **Experiment Variables**: Condition, Dose, Timepoint, Individual, Experimental variable sample type
 - **Instrumentation Details**: Instrument, Default Instrument Settings, Optical Filters Installation Dates, Other Flow Fluidics Information, Other Instrument Settings Information, Flow Cell Type

Use your favorite spreadsheet editor

The screenshot shows a Google Sheets interface for a spreadsheet titled "HIV Annotations". The spreadsheet contains a table with 15 rows of patient data. The columns are labeled A through H. The data in the table is as follows:

	A	B	C	D	E	F	G	H
1	FCS File	Age	Gender	Condition				
2	100715.fcs	51	F	HIV Stage 1				
3	105696.fcs	25	F	HIV Stage 4				
4	108701.fcs	21	M	HIV Stage 3				
5	109025.fcs	20	M	HIV Stage 4				
6	109567.fcs	36	F	HIV Stage 2				
7	110539.fcs	43	M	HIV Stage 1				
8	113548.fcs	38	F	HIV Stage 2				
9	121069.fcs	33	M	HIV Stage 3				
10	122405.fcs	43	M	HIV Stage 2				
11	127225.fcs	21	F	HIV Stage 1				
12	129599.fcs	40	M	HIV Stage 1				
13	129730.fcs	20	F	HIV Stage 2				
14	129869.fcs	21	M	HIV Stage 3				
15	130119.fcs	44	M	HIV Stage 1				

The interface includes a menu bar (File, Edit, View, Insert, Format, Data, Tools, Help), a toolbar with various editing tools, and a status bar at the bottom showing "Sheet1" and the file name "158483.fcs".

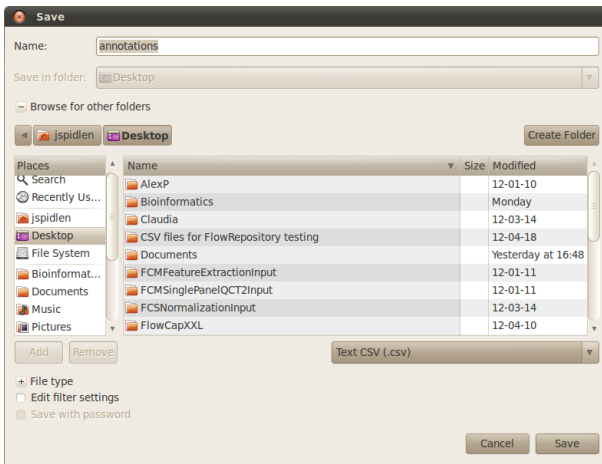
Use your favorite spreadsheet editor

The screenshot shows a LibreOffice Calc spreadsheet titled 'annotations.csv'. The spreadsheet contains a table with the following data:

	A	B	C	D	E	F	G	H
1	FCS File	Age	Gender	Condition				
2	100715.fcs	51	F	HIV Stage 1				
3	105696.fcs	25	F	HIV Stage 4				
4	108701.fcs	21	M	HIV Stage 3				
5	109025.fcs	20	M	HIV Stage 4				
6	109567.fcs	36	F	HIV Stage 2				
7	110539.fcs	43	M	HIV Stage 1				
8	113548.fcs	38	F	HIV Stage 2				
9	121069.fcs	33	M	HIV Stage 3				
10	122405.fcs	43	M	HIV Stage 2				
11	127225.fcs	21	F	HIV Stage 1				
12	129599.fcs	40	M	HIV Stage 1				
13	129730.fcs	20	F	HIV Stage 2				
14	129869.fcs	21	M	HIV Stage 3				
15	130119.fcs	44	M	HIV Stage 1				

Save as CSV (Comma Separated Values)

- Look in the File menu for Save As, Download, or Export



Upload and annotation of your own dataset

Typical steps

- 1 Create a new experiment
- 2 Upload data (FCS files)
- 3 Prepare annotation templates
 - Or prepare spreadsheets with annotations
- 4 **Annotate the experiment**
 - Describe samples and sample sources
 - Provide experimental variables
 - Describe instrumentation settings
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Upload and annotation of your own dataset

Typical steps

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- 2 Upload data (FCS files)
- 3 Prepare annotation templates
 - Or prepare spreadsheets with annotations
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 - Describe samples and sample sources
 - Provide experimental variables
 - Describe instrumentation settings
- 5 Provide analysis details
 - Either analyze data online and create illustrations
 - Or upload third party analysis files (e.g., FlowJo™ workspaces, FCS Express™ project files, FACS Diva™ files, etc.)
- 6 Review (and improve) your MIFlowCyt compliance

« Back to Inbox

My Working Illustration »

MIFlowCyt Annotation »

Actions

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FCS Files

[Download FCS Files](#)

[Upload More FCS Files](#)

[De-identify FCS Files](#)

[Review Keywords in FCS files](#)

Sharing Permissions

Full Access Users



[Nima Aghaeepour](#) [PR]



[Josef Spidlen](#) [x]



[Ryan Brinkman](#) [x]

[Invite a new user](#)

Share with a User (Full Access)

This experiment is currently **private**.

You can also **create a secret access code** to share with reviewers.

Did you know?

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Getting Started: Experiment Details

This Experiment Details Page contains information about the experiment listed above.

[Start describing samples](#)

- [Add flow cytometer information](#)
- [Review experiment variables](#)
- [Analyze your data on-line](#)
- [Review MIFlowCyt annotation](#)
- [Download FCS files](#)

For more tips and guides please see:

- [FlowRepository Quick start guide](#)
- [Documentation site for CytoBank and FlowRepository](#)

▶ Experiment Details

▶ Illustrations

▶ Attachments

▼ FCS Files (466)

[Download Files](#) [Upload More Files](#) [De-identify FCS Files](#) [Review Keywords in FCS files](#)

File Name	Sample	Tube Name	Experiment Variables	Panel	Events	Size
100715.fcs details	100715.fcs describe sample	Tube_025		Panel 1	65016	4 MB
105696.fcs details	105696.fcs describe sample	Tube_009		Panel 1	455184	27.8 MB
108701.fcs details	108701.fcs describe sample	Tube_001		Panel 1	1000000	61 MB
109025.fcs details	109025.fcs describe sample	Tube_009		Panel 1	210186	12.8 MB
109567.fcs details	109567.fcs describe sample	Tube_017		Panel 1	160074	9.8 MB
110539.fcs details	110539.fcs describe sample	Tube_022		Panel 1	364212	22.2 MB
113548.fcs details	113548.fcs describe sample	Tube_003		Panel 1	177102	10.8 MB
121069.fcs details	121069.fcs describe sample	Tube_001		Panel 1	542538	33.1 MB
122405.fcs details	122405.fcs describe sample	Tube_010		Panel 1	476208	29.1 MB

Describing samples

▼ 100715.fcs Sample Information

Apply template: [Create templates](#)

Description *

Sample source [New](#)

Sample characteristic [New](#)

Sample treatment [New](#)

Staining [New](#)

Staining cocktail(s) [New](#)

Describing samples – apply a template

▼ 100715.fcs Sample Information

Apply template: [Create templates](#)

Description *

Sample source [New](#)

Sample characteristic [New](#)

Sample treatment [New](#)

Staining
B cells, MHCII, PerCPCy5.5 (BD Biosciences BD#custo
T cells, CD40, FITC/OG (eBioscience eBio#11-0409)
CD14 positive cells, CD14, Alexa 700 (BD Biosciences
CD86, CD86, PE (eBioscience eBio#12-0869) [New](#)

Staining cocktail(s)
Cocktail no [New](#)

Describing samples – create a sample source

- Use templates again
- Adjust accordingly for each sample
- Or just leave it (we can fix it later using spreadsheets)

The screenshot shows a web form titled "New sample source details". At the top, there is a "Create from template:" dropdown menu followed by a "Create new template(s)" link. Below this is a "Sample source type *" dropdown menu. A large text area labeled "Description *" is positioned below the dropdown. Further down, there are several input fields: "Organism *" (dropdown), "Age *" (text), "Age unit *" (text), "Gender *" (text), "Phenotype *" (text), "Genotype *" (text), and "Treatment *" (text area). At the bottom right of the form, there are "Cancel" and "Save" buttons.

Describing samples – create a sample source

- Use templates again
- Adjust accordingly for each sample
- Or just leave it (we can fix it later using spreadsheets)

The screenshot shows a web form titled "New sample source details". At the top, there is a dropdown menu for "Create from template:" set to "HIV+ subject template" and a link "Create new template(s)". Below this is a "Sample source type *" dropdown menu set to "biological". A "Description *" text area contains the text "HIV+ subject". The "Organism *" dropdown is set to "Homo sapiens (9606) [human]". Other fields include "Age *" (0), "Age unit *" (years), "Gender *" (?), "Phenotype *" (N/A), and "Genotype *" (N/A). The "Treatment *" text area is empty and contains the word "None". At the bottom right, there are "Cancel" and "Save" buttons.

Describing samples – 3 options to save

▼ 100715.fcs Sample Information

Apply template: [Create templates](#)

Description *

Sample source [New](#)

Sample characteristic [New](#)

Sample treatment [New](#)

Staining
B cells, MHCII, PerCPCy5.5 (BD Biosciences BD#custo
T cells, CD40, FITC/OG (eBioscience eBio#11-0409)
CD14 positive cells, CD14, Alexa 700 (BD Biosciences
CD86, CD86, PE (eBioscience eBio#12-0869) [New](#)

Staining cocktail(s)
Cocktail no [New](#)

Describing samples – 3 options to save

▼ 100715.fcs Sample Information

Apply template: [Create templates](#)

Description *

Sample source [New](#)

Sample characteristic [New](#)

Sample treatment [New](#)

Staining
B cells, MHCII, PerCPCy5.5 (BD Biosciences BD#custo
T cells, CD40, FITC/OG (eBioscience eBio#11-0409)
CD14 positive cells, CD14, Alexa 700 (BD Biosciences
CD86, CD86, PE (eBioscience eBio#12-0869) [New](#)

Staining cocktail(s)
Cocktail no [New](#)

Describing samples – 3 options to save

▼ 100715.fcs Sample Information

Apply template: [Create templates](#)

Description *

Sample source [New](#)

Sample characteristic [New](#)

Sample treatment [New](#)

Staining
B cells, MHCII, PerCPCy5.5 (BD Biosciences BD#custo
T cells, CD40, FITC/OG (eBioscience eBio#11-0409)
CD14 positive cells, CD14, Alexa 700 (BD Biosciences
CD86, CD86, PE (eBioscience eBio#12-0869) [New](#)

Staining cocktail(s)
Cocktail no [New](#)

Samples and sample sources are now described

The screenshot shows the FlowRepository web interface for an experiment titled "IDCRP's HIV Natural History Study". The interface includes a navigation menu on the left with options like "Back to Inbox", "My Working Illustration", and "MIFlowCyt Annotation". The main content area displays "Getting Started: Experiment Details" with tabs for "Experiment Details", "Illustrations", and "Attachments". Below these is a section for "FCS Files (466)" with a table listing individual files.

File Name	Sample	Tube Name	Experiment Variables	Panel	Events	Size
100715.fcs details	show sample description	Tube_025		Panel 1	65016	4 MB
105696.fcs details	show sample description	Tube_009		Panel 1	455184	27.8 MB
108701.fcs details	show sample description	Tube_001		Panel 1	1000000	61 MB
109025.fcs details	show sample description	Tube_009		Panel 1	210186	12.8 MB
109567.fcs details	show sample description	Tube_017		Panel 1	160074	9.8 MB
110539.fcs details	show sample description	Tube_022		Panel 1	364212	22.2 MB
113548.fcs details	show sample description	Tube_003		Panel 1	177102	10.8 MB
121069.fcs details	show sample description	Tube_001		Panel 1	542538	33.1 MB
122405.fcs details	show sample description	Tube_010		Panel 1	476208	29.1 MB
127225.fcs details	show sample description	Tube_021		Panel 1	257058	15.7 MB
129599.fcs details	show sample description	Tube_007		Panel 1	352314	21.5 MB
129730.fcs details	show sample description	Tube_017		Panel 1	390528	23.8 MB
129869.fcs details	show sample description	Tube_002		Panel 1	230852	14.1 MB

But not everything is correct!

- Our *Sample source organisms* vary in **age** and **gender**
- We left this out from our template
- Time to fix this
 - We can now use the spreadsheet created earlier

Upload the spreadsheet as attachment

Experiment: IDCRP's HIV Natural History Study ID: FR-FCM-ZZZB Labels: None Primary Researcher: Nima Aghaeepour Public: No MIFlowCyt Score: 61.50%

« Back to Inbox

My Working Illustration »

MIFlowCyt Annotation »

Actions

- Experiment
 - Edit Experiment Details
 - Delete Experiment
- FCS Files
 - Download FCS Files
 - Upload More FCS Files
 - De-identify FCS Files
 - Review Keywords in FCS files
- Sharing Permissions
 - Full Access Users
 - Nima Aghaeepour [PR]
 - Josef Spidlen [x]
 - Ryan Brinkman [x]
 - Invite a new user
 - Share with a User (Full Access)

This experiment is currently **private**.

Getting Started: Experiment Details

Experiment Details

Illustrations

Attachments

File Name Date Uploaded By Size md5sum

Attach a file

Choose File No file chosen

Upload

FCS Files (466)

Download Files Upload More Files De-identify FCS Files Review Keywords in FCS files

File Name	Sample	Tube Name	Experiment Variables	Panel	Events	Size
100715.fcs details	show sample description	Tube_025		Panel 1	65016	4 MB
105696.fcs details	show sample description	Tube_009		Panel 1	455184	27.8 MB
108701.fcs details	show sample description	Tube_001		Panel 1	1000000	61 MB
109025.fcs details	show sample description	Tube_009		Panel 1	210186	12.8 MB
109567.fcs details	show sample description	Tube_017		Panel 1	160074	9.8 MB
110539.fcs details	show sample description	Tube_022		Panel 1	364212	22.2 MB
113548.fcs details	show sample description	Tube_003		Panel 1	177102	10.8 MB
121069.fcs details	show sample description	Tube_001		Panel 1	542538	33.1 MB
122405.fcs details	show sample description	Tube_010		Panel 1	476208	29.1 MB

Upload the spreadsheet as attachment

Experiment: IDCRP's HIV Natural History Study ID: FR-FCM-ZZZB Labels: None Primary Researcher: Nima Aghaeepour Public: No MIFlowCyt Score: 61.50%

« Back to Inbox

My Working Illustration »

MIFlowCyt Annotation »

Actions

- Experiment
 - Edit Experiment Details
 - Delete Experiment
- FCS Files
 - Download FCS Files
 - Upload More FCS Files
 - De-identify FCS Files
 - Review Keywords in FCS files
- Sharing Permissions
 - Full Access Users
 - Nima Aghaeepour [PR]
 - Josef Spidlen [x]
 - Ryan Brinkman [x]
 - Invite a new user
 - Share with a User (Full Access)

This experiment is currently **private**.

Getting Started: Experiment Details

Experiment Details

Illustrations

Attachments

File Name	Date	Uploaded By	Size	md5sum
Attach a file				
<input type="text" value="Choose File"/>	annotations.csv			
<input type="button" value="Upload"/>				

FCS Files (466)

Download Files Upload More Files De-identify FCS Files Review Keywords in FCS files

File Name	Sample	Tube Name	Experiment Variables	Panel	Events	Size
100715.fcs details	show sample description	Tube_025		Panel 1	65016	4 MB
105696.fcs details	show sample description	Tube_009		Panel 1	455184	27.8 MB
108701.fcs details	show sample description	Tube_001		Panel 1	1000000	61 MB
109025.fcs details	show sample description	Tube_009		Panel 1	210186	12.8 MB
109567.fcs details	show sample description	Tube_017		Panel 1	160074	9.8 MB
110539.fcs details	show sample description	Tube_022		Panel 1	364212	22.2 MB
113548.fcs details	show sample description	Tube_003		Panel 1	177102	10.8 MB
121069.fcs details	show sample description	Tube_001		Panel 1	542538	33.1 MB
122405.fcs details	show sample description	Tube_010		Panel 1	476208	29.1 MB

Upload the spreadsheet as attachment

The screenshot shows the FlowRepository interface for an experiment titled "IDCRP's HIV Natural History Study". The experiment ID is FR-FCM-ZZZB, and it is currently private. A confirmation message states "Attachment was added to experiment." with a green checkmark. Below this, there are navigation buttons for "Back to Inbox", "My Working Illustration", and "MIFlowCyt Annotation".

The "Attachments" section displays a table with the following data:

File Name	Date	Uploaded By	Size	md5sum
annotations.csv	12:03 PM	Josef Spidlen	15.5 KB	1de7e15...

Below the attachments, there is a section for "FCS Files (466)". A table lists several files with their details:

File Name	Sample	Tube Name	Experiment Variables	Panel	Events	Size
100715.fcs	show sample description	Tube_025		Panel 1	65016	4 MB
105696.fcs	show sample description	Tube_009		Panel 1	455184	27.8 MB
108701.fcs	show sample description	Tube_001		Panel 1	1000000	61 MB
109025.fcs	show sample description	Tube_009		Panel 1	210186	12.8 MB
109567.fcs	show sample description	Tube_017		Panel 1	160074	9.8 MB

Describe the attachment (optional)

The screenshot shows the FlowRepository web interface for an experiment titled "IDCRP's HIV Natural History Study". The page includes a navigation bar with the experiment ID (FR-FCM-ZZZB), labels, primary researcher (Nima Aghaepour), and a public status. A notification at the top indicates that an attachment was successfully added to the experiment.

Attachment Details:

File Name	Date	Uploaded By	Size	md5sum
annotations.csv File specific sample source details	12:03 PM	Josef Spidlen	15.5 KB	1de7e15...

Below the attachment table, there is a section for "FCS Files (466)".

File Name	Sample	Tube Name	Experiment Variables	Panel	Events	Size
100715.fcs details	show sample description	Tube_025		Panel 1	65016	4 MB
105696.fcs details	show sample description	Tube_009		Panel 1	455184	27.8 MB
108701.fcs details	show sample description	Tube_001		Panel 1	1000000	61 MB
109025.fcs details	show sample description	Tube_009		Panel 1	210186	12.8 MB
109567.fcs details	show sample description	Tube_017		Panel 1	160074	9.8 MB

Parse the attachment – click on (P)

The screenshot shows the FlowRepository interface for an experiment titled "IDCRP's HIV Natural History Study". The page includes a navigation bar with "Back to Inbox", "My Working Illustration", and "MIFlowCyt Annotation" buttons. A green notification states "Attachment was added to experiment." Below this is a "Getting Started: Experiment Details" section with tabs for "Experiment Details", "Illustrations", and "Attachments".

The "Attachments" section displays a table with the following data:

File Name	Date	Uploaded By	Size	md5sum
annotations.csv	12:03 PM	Josef Spidlen	15.5 KB	1de7e15...

Below the attachment table, there is a "Attach a file" section with a "Choose File" button and a note "No file chosen".

The "FCS Files (466)" section contains a table with the following data:

File Name	Sample	Tube Name	Experiment Variables	Panel	Events	Size
100715.fcs	show sample description	Tube_025		Panel 1	65016	4 MB
105696.fcs	show sample description	Tube_009		Panel 1	455184	27.8 MB
108701.fcs	show sample description	Tube_001		Panel 1	1000000	61 MB
109025.fcs	show sample description	Tube_009		Panel 1	210186	12.8 MB
109567.fcs	show sample description	Tube_017		Panel 1	160074	9.8 MB

On the left side, the "Actions" menu includes "Experiment", "Edit Experiment Details", "Delete Experiment", "FCS Files", "Download FCS Files", "Upload More FCS Files", "De-identify FCS Files", and "Review Keywords in FCS files". The "Sharing Permissions" section lists "Full Access Users" including Nima Aghaeepour, Josef Spidlen, and Ryan Brinkman.

Information extracted from attachment

- Review the result

Note: We also provided one experimental variable (the condition)

The following information extracted from attachment annotations.csv

FCS file	age	gender	condition
100715.fcs	51	F	HIV Stage 1
105696.fcs	25	F	HIV Stage 4
108701.fcs	21	M	HIV Stage 3
109025.fcs	20	M	HIV Stage 4
109567.fcs	36	F	HIV Stage 2
110539.fcs	43	M	HIV Stage 1
113548.fcs	38	F	HIV Stage 2
121069.fcs	33	M	HIV Stage 3
122405.fcs	43	M	HIV Stage 2
127225.fcs	21	F	HIV Stage 1
129599.fcs	40	M	HIV Stage 1
129730.fcs	20	F	HIV Stage 2
129869.fcs	21	M	HIV Stage 3
130119.fcs	44	M	HIV Stage 1
132447.fcs	17	F	HIV Stage 1

Upload and annotation of your own dataset

Typical steps

- 1 Create a new experiment
- 2 Upload data (FCS files)
- 3 Prepare annotation templates
 - Or prepare spreadsheets with annotations
- 4 Annotate the experiment
 - Describe samples and sample sources
 - [Provide experimental variables](#)
 - Describe instrumentation settings
- 5 Provide analysis details
 - Either analyze data online and create illustrations
 - Or upload third party analysis files (e.g., FlowJo™ workspaces, FCS Express™ project files, FACS Diva™ files, etc.)
- 6 Review (and improve) your MIFlowCyt compliance

Provide experimental variables

- Follow [Review experiment variables](#) in the Getting Started panel
- Or navigate to your [Working Illustration](#)

▼ Getting Started: Experiment Details ✕



This Experiment Details Page contains information about the experiment listed above.

- [Start describing samples](#)
- [Add flow cytometer information](#)
- [Review experiment variables](#)
- [Analyze your data on-line](#)
- [Review MIFlowCyt annotation](#)
- [Download FCS files](#)

For more tips and guides please see:

- [FlowRepository Quick start guide](#)
- [Documentation site for Cytobank and FlowRepository](#)

▼ Illustrations i

Name	Active Dimensions		Author	Created	Updated
Josef's Working Illustration	Channels (0) x Populations (1)	Print View	 PDF	 Josef Spidlen	May 2012
Reset Working Illustration					

Provide experimental variables

▼ Figure Dimensions (Experimental Variables): Channels ⇄ Populations ⇄ Conditions ⓘ

Available Dimensions - Click to toggle on/off

Channels Populations Dosages Timepoints Conditions Individuals Sample Types Fcs Files Plate Column Plate Row Plate

Arrange Dimensions - Drag to prioritize dimensions, click Choose to change selections and ordering, click Setup/Gate to configure

Channels 32 channels [Choose](#) | [Setup](#)

Unselected Channels:

- Panel 1
- Panel 2
- Panel 1
- Panel 2
- Panel 1
- Panel 2
- Ki67 - Panel 1
- Ki67 - Panel 2
- CD3 - Panel 1
- CD3 - Panel 2
- CD28 - Panel 1
- CD28 - Panel 2
- CD45RO - Panel 1
- CD45RO - Panel 2

Columns

Populations 1 of 1 selected [Choose](#) | [Gate](#)

Ungated

Rows

Conditions 4 of 4 selected [Choose](#) | [Setup](#)

- HIV Stage 1
- HIV Stage 4
- HIV Stage 3
- HIV Stage 2

Table 1

- Example: patients treated by various dosages of Lexiva™

Provide experimental variables

▼ Figure Dimensions (Experimental Variables): Channels ⇄ Populations ⇄ Conditions ⓘ

Available Dimensions - Click to toggle on/off

Channels Populations Dosages Timepoints Conditions Individuals Sample Types Fcs Files Plate Column Plate Row Plate

Arrange Dimensions - Drag to prioritize dimensions, click Choose to change selections and ordering, click Setup/Gate to configure

Channels 32 channels Choose Setup

Unselected Channels:

- Panel 1
- Panel 2
- Panel 1
- Panel 2
- Panel 1
- Panel 2
- KI67 - Panel 1
- KI67 - Panel 2
- CD3 - Panel 1
- CD3 - Panel 2
- CD28 - Panel 1
- CD28 - Panel 2
- CD45RO - Panel 1
- CD45RO - Panel 2

Columns

Populations 1 of 1 selected Choose Gate

Ungated

Rows

Conditions 4 of 4 selected Choose Setup

HIV Stage 1

HIV Stage 4

HIV Stage 3

HIV Stage 2

Table 1

Dosages Choose Setup

Click To Setup

Table 2

- Example: patients treated by various dosages of Lexiva™
- Click on Dosages, than Setup

List doses

- Provide a comma-separated list of all doses

▼ Add Doses ?

Enter a comma separated list of Doses to add:

Assign FCS files to the right doses

- Drag & Drop files into the appropriate boxes
- Or use the *Filter* with *Move to*

The screenshot displays the 'All Doses' section of the FlowRepository interface. At the top, there are four tabs: 'All Doses', 'Lexiva 1400 bid', 'Lexiva 1400 qd+Norvir 200 qd', and 'Lexiva 700 bid+Norvir 100 bid'. Below the tabs, the 'All Doses' section is active, showing a list of 'Untagged' files on the left and two 'Tagged Files' boxes on the right. The 'Untagged' box contains a 'Filter' input field, a 'Move to...' dropdown menu, and a 'Move file(s)' button. Below these are ten file entries: 134892.fcs (Tube_021), 140801.fcs (Tube_022), 145618.fcs (Tube_011), 158322.fcs (Tube_001), 158483.fcs (Tube_012), 159665.fcs (Tube_004), 162173.fcs (Tube_005), 162520.fcs (Tube_017), and 166139.fcs (Tube_010). The first 'Tagged Files' box, titled 'Lexiva 1400 bid Tagged Files', contains five files: 100715.fcs (Tube_025), 105696.fcs (Tube_009), 108701.fcs (Tube_001), 127225.fcs (Tube_021), and 130119.fcs (Tube_001). The second 'Tagged Files' box, titled 'Lexiva 1400 qd+Norvir 200 qd Tagged Files', contains four files: 109025.fcs (Tube_009), 110539.fcs (Tube_022), 121069.fcs (Tube_001), and 122405.fcs (Tube_010). A file entry '132769.fcs (Tube_002)' is shown below the second tagged box, with a mouse cursor hovering over it, indicating it is being moved or about to be moved.

All Doses

Drag files from "Untagged" box to the "Dose" boxes below to associate them with that tag. Use the "Filter" and "Move File" controls to move groups of files.

Untagged

Filter

Move to...

Move file(s)

134892.fcs (Tube_021)

140801.fcs (Tube_022)

145618.fcs (Tube_011)

158322.fcs (Tube_001)

158483.fcs (Tube_012)

159665.fcs (Tube_004)

162173.fcs (Tube_005)

162520.fcs (Tube_017)

166139.fcs (Tube_010)

Lexiva 1400 bid Tagged Files

100715.fcs (Tube_025)

105696.fcs (Tube_009)

108701.fcs (Tube_001)

127225.fcs (Tube_021)

130119.fcs (Tube_001)

132447.fcs (Tube_013)

Lexiva 1400 qd+Norvir 200 qd Tagged Files

109025.fcs (Tube_009)

110539.fcs (Tube_022)

121069.fcs (Tube_001)

122405.fcs (Tube_010)

132769.fcs (Tube_002)

Upload and annotation of your own dataset

Typical steps

- 1 Create a new experiment
- 2 Upload data (FCS files)
- 3 Prepare annotation templates
 - Or prepare spreadsheets with annotations
- 4 Annotate the experiment
 - Describe samples and sample sources
 - Provide experimental variables
 - Describe instrumentation settings
- 5 Provide analysis details
 - Either analyze data online and create illustrations
 - Or upload third party analysis files (e.g., FlowJo™ workspaces, FCS Express™ project files, FACS Diva™ files, etc.)
- 6 Review (and improve) your MIFlowCyt compliance

Instrumentation description

- Navigate to the details of an FCS file

The screenshot shows the FlowRepository web interface for an experiment titled "IDCRP's HIV Natural History Study". The URL is <https://flowrepository.org/experiments/11>. The interface includes a navigation bar with "Back to Inbox", "My Working Illustration", and "MIFlowCyt Annotation" buttons. A green banner indicates "Getting Started: Experiment Details". Below this, there are tabs for "Experiment Details", "Illustrations", and "Attachments". The "FCS Files (466)" section is expanded, showing a table of files. The first row is highlighted, and the "details" link for the file "100715.fcs" is circled in red.

File Name	Sample	Tube Name	Experiment Variables	Panel	Events	Size	
100715.fcs	details	show sample description	Tube_025	HIV Stage 1, Lexiva 1400 bid	Panel 1	65016	4 MB
105696.fcs	details	show sample description	Tube_009	HIV Stage 4, Lexiva 1400 bid	Panel 1	455184	27.8 MB
108701.fcs	details	show sample description	Tube_001	HIV Stage 3, Lexiva 1400 bid	Panel 1	1000000	61 MB
109025.fcs	details	show sample description	Tube_009	HIV Stage 4, Lexiva 1400 qd+Norvir 200 qd	Panel 1	210186	12.8 MB
109567.fcs	details	show sample description	Tube_017	HIV Stage 2, Lexiva 700 bid+Norvir 100 bid	Panel 1	160074	9.8 MB
110539.fcs	details	show sample description	Tube_022	HIV Stage 1, Lexiva 1400 qd+Norvir 200 qd	Panel 1	364212	22.2 MB
113548.fcs	details	show sample description	Tube_003	HIV Stage 2, Lexiva 700 bid+Norvir 100 bid	Panel 1	177102	10.8 MB
121069.fcs	details	show sample description	Tube_001	HIV Stage 3, Lexiva 1400 qd+Norvir 200 qd	Panel 1	542538	33.1 MB
122405.fcs	details	show sample description	Tube_010	HIV Stage 2, Lexiva 1400 qd+Norvir 200 qd	Panel 1	476208	29.1 MB
127225.fcs	details	show sample description	Tube_021	HIV Stage 1, Lexiva 1400 bid	Panel 1	257058	15.7 MB
129599.fcs	details	show sample description	Tube_007	HIV Stage 1, Lexiva 700 bid+Norvir 100 bid	Panel 1	352314	21.5 MB
129730.fcs	details	show sample description	Tube_017	HIV Stage 2, Lexiva 700 bid+Norvir 100 bid	Panel 1	390528	23.8 MB
129869.fcs	details	show sample description	Tube_002	HIV Stage 3, Lexiva 700 bid+Norvir 100 bid	Panel 1	230852	14.1 MB

Instrumentation description

- Press the *Describe instrument settings* button

The screenshot shows a web browser window with the URL https://flowrepository.org/experiments/11/fcs_files/3043. The page displays information for an experiment titled "IDCRP's HIV Natural History Study" with ID "FR-FCM-ZZZB". A button labeled "Describe instrument settings" is circled in red in the "100715.fcs - FCS File Instrument Settings" section.

Experiment: IDCRP's HIV Natural History Study ID: FR-FCM-ZZZB Labels: None Primary Researcher: [Nima Aghaepour](#) Public: No MIFlowCyt Score: 66.00%

« Back to Experiment Summary

100715.fcs - FCS File Information

100715.fcs - FCS File Instrument Settings

File-specific instrument settings have not been provided!

[Describe instrument settings](#)

100715.fcs - FCS File Laser Information

ASF	Name	Delay
Blue	0.66	0.00
Red	0.55	-59.80
Violet	0.48	-24.40
Green	0.53	-82.60

100715.fcs - FCS File Channel Information

Channel Short Name	Channel Name	Gain	Bits	Amp	Range	Voltage	Amp Value
FSC-A		1	32		262207.0		0.0
FSC-H		1	32		262207.0		0.0
SSC-A		1	32		261588.0		0.0
B515-A	KI67	1	32		261588.0		0.0
R780-A	CD3	1	32		261588.0		0.0
P378-A	CD38	1	32		261588.0		0.0

Did you know?
 You can request a one-on-one session to get started with your data by filling out a [support ticket](#).
 A guide to Cytobank is available at [Current Protocols in Cytometry](#).
 We also have a [Quick start guide](#).
 You can print/save your illustrations to PDF from the illustration view's left menu.
 You can export your data to Excel from the Experiment Summary page.
 Give other users full control to modify your experiments through the "Sharing Permissions" box.
 Use the "Download Files" button to save copies of the original FCS Files to your computer.

Instrumentation description

- Select the make and model of the instrument used

The screenshot shows a web browser window displaying the FlowRepository interface for an experiment titled 'IDCRP's HIV Natural History Study'. The URL is https://flowrepository.org/experiments/11/fcs_files/3043. The page shows various sections for file information and settings. A modal dialog box titled 'Describe instrument settings' is open, featuring a dropdown menu labeled 'Instrument *' and 'Cancel' and 'Save' buttons. Below the dialog, a table titled '100715.fcs - FCS File Channel Information' is visible.

Channel Short Name	Channel Name	Gain	Bits	Amp	Range	Voltage	Amp Value
FSC-A		1	32		262207.0		0.0
FSC-H		1	32		262207.0		0.0
SSC-A		1	32		261588.0		0.0
B515-A	KI67	1	32		261588.0		0.0
R780-A	CD3	1	32		261588.0		0.0

Instrumentation description

- New instruments may be added in the annotation data section

The screenshot shows the FlowRepository interface for an experiment titled "IDCRP's HIV Natural History Study". The main content area is titled "100715.fcs - FCS File Information" and "100715.fcs - FCS File Instrument Settings". A "Describe instrument settings" dialog box is open, displaying a list of instrument models. The "Instrument *" dropdown is currently set to "BD LSR II, Becton Dickinson (BD Biosciences)". Below the list, a table shows the following parameters:

Parameter	Value
CD3	1
261588.0	261588.0
Amp Value	0.0

Instrumentation description

- **Simple case:** Same instrument with default settings for all FCS files

Describe instrument settings ✕

Instrument *

BD LSR II, Becton Dickinson (BD Biosciences) ▾

Use default instrument settings

Installation dates for filters in optical paths

The instrument has been purchased new on July 1, 2011; all optical filters are original and came with the instrument.

Other

PMT voltages specified within the FCS data files.

Use these settings for all FCS files in this experiment

Cancel Save

Instrumentation description

- **Advanced case:** Describe all details
 - Required by MIFlowCyt for customized instruments only

The screenshot shows a web form titled "Describe instrument settings" with a close button (X) in the top right corner. The form contains several sections:

- Instrument ***: A dropdown menu with the selected value "BD LSR II, Becton Dickinson (BD Biosciences)".
- Use default instrument settings**: A checkbox that is currently unchecked.
- Flow cell type**: A dropdown menu with "Quartz cuvette" selected, and a blue button labeled "Add new flow cell type" to its right.
- Other flow fluidics**: A large, empty rectangular text area.
- Optical paths**: A dropdown menu with "-- None --" selected, and a blue button labeled "Add new optical path" to its right.

Instrumentation description

New optical path details

Parameter * FSC-A ▾

Optical path

```
graph LR; LS[Light Source] --- F[Filter] --- OD[Optical Detector] --- O[Other];
```

1. Light Source
2. Filter
3. Optical Detector

Create optical path: You can drag and drop the framed components onto the colored box to create a sorted list.

Change order: Drag the components around to re-order them.

Specify component: Double-click a component for further specification.

Remove component: Drag a components to the trash symbol to remove it from the list.

Clear list: Click the trash symbol to empty the entire list.

Cancel Save

Instrumentation description

- Double click on each of component
- Either select an existing component or create a new description with all the details as required by MIFlowCyt

Light Source component ✕

Select existing light source:

Instrumentation description

- New light source description:

Light Source component ✕

Select existing light source

Light source type *

Excitatory wavelength [nm] *

Power *

Polarization

Beam

Other

Instrumentation description

- New optical filter description:

Optical Filter component ✕

Select existing filter

Filter type *

Transmitted wavelengths *

Model

Manufacturer [New](#)

Other

[Cancel](#) [Add component](#)

Instrumentation description

- New optical detector description:

Optical Detector component ✕

[Select existing detector](#)

Optical detector type *

Name *

Amplification type

Other

Instrumentation description

- The MIFlowCyt score finally reached the “green area” once the instrumentation description is provided

Experiment: IDCRP's HIV Natural History Study ID: FR-FCM-ZZZB Labels: None Primary Researcher: Nima Aghaepour Public: No **MIFlowCyt Score: 86.00%**

« Back to Experiment Summary

▼ Actions

[Download Tab-Separated Events File](#)
[Show Sample Details](#)
[De-identify the FCS file](#)
[Review Keywords in the FCS file](#)

▼ Did you know?

You can request a one-on-one session to get started with your data by filling out a [support ticket](#).

A guide to CytoBank is available at [Current Protocols in Cytometry](#).

We also have a [Quick start guide](#).

You can print/save your Illustrations to PDF from the Illustration view's left menu.

You can export your data to Excel from the Experiment Summary page.

Give other users full control to modify your experiments through the "Sharing Permissions" box.

Use the "Download Files" button to save copies of the original FCS Files to your computer.

▶ 100715.fcs - FCS File Information

▼ 100715.fcs - FCS File Instrument Settings

Instrument model: BD LSR II
 Manufacturer: Becton Dickinson (BD Biosciences)
 Flow Cell Type: Using default settings for BD LSR II
 Optical Paths: Using default settings for BD LSR II
 Installation dates of filters in Optical Paths: The instrument has been purchased new on July 1, 2011; all optical filters are original and came with the instrument.
 Other: PMT voltages specified within the FCS data files.

[Change instrument settings](#)

▼ 100715.fcs - FCS File Laser Information

ASF	Name	Delay
Blue	0.66	0.00
Red	0.55	-59.80
Violet	0.48	-24.40
Green	0.53	-82.60

▶ 100715.fcs - FCS File Channel Information

Upload and annotation of your own dataset

Typical steps

- 1 Create a new experiment
- 2 Upload data (FCS files)
- 3 Prepare annotation templates
 - Or prepare spreadsheets with annotations
- 4 Annotate the experiment
 - Describe samples and sample sources
 - Provide experimental variables
 - Describe instrumentation settings
- 5 Provide analysis details
 - Either analyze data online and create illustrations
 - Or upload third party analysis files (e.g., FlowJo™ workspaces, FCS Express™ project files, FACS Diva™ files, etc.)
- 6 Review (and improve) your MIFlowCyt compliance

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Analyze data online

- Navigate to your *Working illustration*
- Click on *Gate* in the Populations panel

▼ Figure Dimensions (Experimental Variables): Channels ⇄ Populations ⇄ Conditions ⇄ Dosages ⓘ

Available Dimensions - Click to toggle on/off

Channels Populations Dosages Timepoints Conditions Individuals Sample Types Fcs Files

Plate Column Plate Row Plate

Arrange Dimensions - Drag to prioritize dimensions, click Choose to change selections and ordering, click Setup/Gate to configure

Populations 1 of 1 selected [Choose](#) [Gate](#)

Ungated

Columns

Conditions 4 of 4 selected [Choose](#) | [Setup](#)

HIV Stage 1

HIV Stage 4

HIV Stage 3

HIV Stage 2

Rows

Dosages 3 of 3 selected [Choose](#) | [Setup](#)

Lexiva 1400 bid

Lexiva 1400 qd+Norvir 200 qd

Lexiva 700 bid+Norvir 100 bid

Table 1

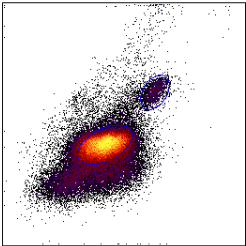
Analyze data online

- Draw your gates

Draw Gates

Save & Return Select Rectangle Ellipse Polygon Quadrant Split Range Reset

File: 100715.fcs - Tube_025



View

Active Population:
Ungated
Up Down

Active Compensation:
File Compensation
Plot Settings

Populations
Manage View

Y: CD4 Arcsinh
X: CD28 Arcsinh

List of gates:
Gate 1
Gate 2
Gate 3

Selected gate:
Name:
 Global Gate
 Tailored Gate
Apply Tailored Gate to Files...
 Lock
Points Check Gate

Analyze data online

- Select what to include and organize figure dimensions

▼ Figure Dimensions (Experimental Variables): Populations ⇄ Conditions ⇄ Dosages i

Available Dimensions - Click to toggle on/off

Channels
Populations
Dosages
Timepoints
Conditions
Individuals
Sample Types
Fcs Files
Plate Column

Plate Row
Plate

Arrange Dimensions - Drag to prioritize dimensions, click Choose to change selections and ordering, click Setup/Gate to configure

Channels ☰

3 selected [Choose](#) | [Setup](#)

KI67 - Panel 1

CD3 - Panel 1

CD28 - Panel 1

Unselected Channels:

- Panel 1
- Panel 2
- Panel 1
- Panel 2
- Panel 1
- Panel 2
- KI67 - Panel 2
- CD3 - Panel 2
- CD28 - Panel 2
- CD45RO - Panel 1

Columns

⇄

Fcs Files ☰

2 selected [Choose](#)

100715.fcs (Tube_025)

399676.fcs (Tube_025)

Unselected Fcs Files:

- 105696.fcs (Tube_009)
- 108701.fcs (Tube_001)
- 109025.fcs (Tube_009)
- 109567.fcs (Tube_017)
- 110539.fcs (Tube_022)
- 113548.fcs (Tube_003)
- 121069.fcs (Tube_001)
- 122405.fcs (Tube_010)
- 127225.fcs (Tube_021)
- 129599.fcs (Tube_007)
- 129730.fcs (Tube_017)

Rows

⇄

Populations ☰

3 selected [Choose](#) | [Gate](#)

Ungated

Gate 1

Gate 2

Unselected Populations:

Gate 3

Table 1

Analyze data online

- Configure plot and stats settings

Plot Controls ⓘ

Plot Types

Plot Colors

Plot Size

Compensation [\[edit\]](#)

Y-Axis

X-Axis

Z-Axis

Show Gates

Show Gate Statistic

Show Plot Statistics

Plots: Style ⓘ

Plot Background Color

Percent per Contour

Outliers Start At

Smoothing

Aspect Ratio

Plots: Scale Display ⓘ

Number Format

Show Tickmarks

Show Scale Numbers

Show Axis Labels

Plot Statistics ⓘ

Statistic

Percentile (1-99)

Selected Gate

Equation

Control

Viewthrough Plot Type

Gradient Color Set

Gradient Scale Type

Min

Inflection

Max

Analyze data online

- Review the illustration
- Name it and save it

▼ Josef's Working Illustration i

Save Illustration as:

[Split Illustration by channels](#)

[Reset Illustration](#)

[Print View](#)  [PDF](#)

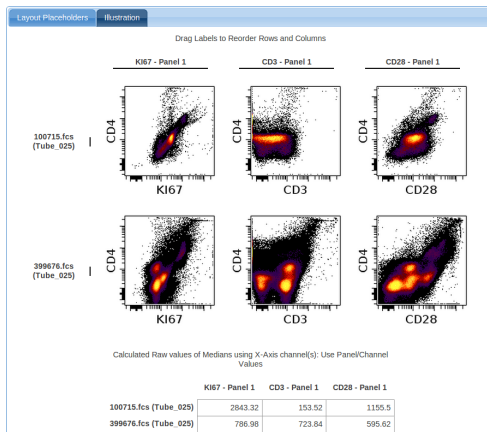
[Export Table of Statistics](#)

[Export Table of Events](#)

[Export Table of Scaled Events](#)

[Export Gated FCS Files](#)

[Export Gates in Gating-ML](#)



Analyze data online

More on analyzing data online in Cytobank or FlowRepository:

UNIT 10.17 Web-Based Analysis and Publication of Flow Cytometry Experiments

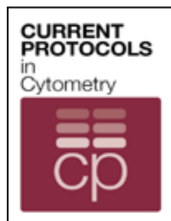
Nikesh Kotecha^{1,2,3}, Peter O. Krutzik^{1,2},
Jonathan M. Irish¹

Published Online: 1 JUL 2010

DOI: 10.1002/0471142956.cy1017s53

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Lab Protocol Title



Current Protocols in
Cytometry

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Typical steps

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- 6 Review (and improve) your MIFlowCyt compliance

Provide third party analysis files, figures, tables, etc.

- Upload these as attachments

Attachments ⓘ

File Name	Date	Uploaded By	Size	md5sum
annotations.csv ✕ Ⓟ File specific sample source details	Jun 07	 Josef Spidlen	15.5 KB	1de7e15...
HIV_Analysis.jo ✕ Complete analysis in FlowJo	11:57 AM	 Josef Spidlen	14.4 MB	d8a8ab5...
HIV_Analysis_Overview.png ✕ Overview figure	12:06 PM	 Josef Spidlen	169.3 KB	4958a88...
HIV_Analysis_Class_Comparison.jpg ✕ HIV class comparison figure	12:06 PM	 Josef Spidlen	201.9 KB	5795d5e...
All_Statistics.xlsx ✕ Tables and stats	12:07 PM	 Josef Spidlen	253.6 KB	95641c1...
Extended_description.docx ✕ More details on experimental design	12:07 PM	 Josef Spidlen	208.2 KB	76f301b...

Attach a file

No file chosen

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[« Back to Inbox](#)

Getting Started: Experiment Details

[My Working Illustration »](#)

[MIFlowCyt Annotation »](#)

Actions

Experiment

[Edit Experiment Details](#)

[Delete Experiment](#)

FCS Files

[Download FCS Files](#)

[Upload More FCS Files](#)

[De-identify FCS Files](#)

[Review Keywords in FCS files](#)

Sharing Permissions

Full Access Users

[Nima Aghaepour](#) [PR]

[Josef Spidlen](#) [x]

[Ryan Brinkman](#) [x]

[Invite a new user](#)

Share with a User (Full Access)

This experiment is currently **private**.

[Share with Everyone](#)

You can also **create a secret access code** to share with reviewers.

[Share with Reviewers](#)

Did you know?

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A guide to Cytobank is available at [Current Protocols in Cytometry](#)

We also have a [Quick start guide](#).

You can print/save your illustrations to PDF from the illustration view's left menu.

You can export your data to Excel from the

Experiment Details

Illustrations

Name	Active Dimensions		Author	Created	Updated
Illustration 1	Channels (3) x Fcs Files (2) x Populations (3)	Print View PDF Delete	Josef Spidlen	11:37 AM	
Josef's Working Illustration	Channels (3) x Fcs Files (2) x Populations (3)	Print View PDF	Josef Spidlen	May 2012	11:11 AM

[Delete My Saved Illustrations/Reset Working Illustration](#)

Attachments

File Name	Date	Uploaded By	Size	md5sum
annotations.csv File specific sample source details	Jun 07	Josef Spidlen	15.5 KB	1de7e15...
HIV_Analysis.jo Complete analysis in FlowJo	11:57 AM	Josef Spidlen	14.4 MB	d8a8ab5...
HIV_Analysis_Overview.png Overview figure	12:08 PM	Josef Spidlen	169.3 KB	4958a88...
HIV_Analysis_Class_Comparison.jpg HIV class comparison figure	12:08 PM	Josef Spidlen	201.9 KB	5795d5e...
All_Statistics.xlsx Tables and stats	12:09 PM	Josef Spidlen	253.6 KB	95641c1...
Extended_description.docx More details on experimental design	12:09 PM	Josef Spidlen	208.2 KB	76f301b...

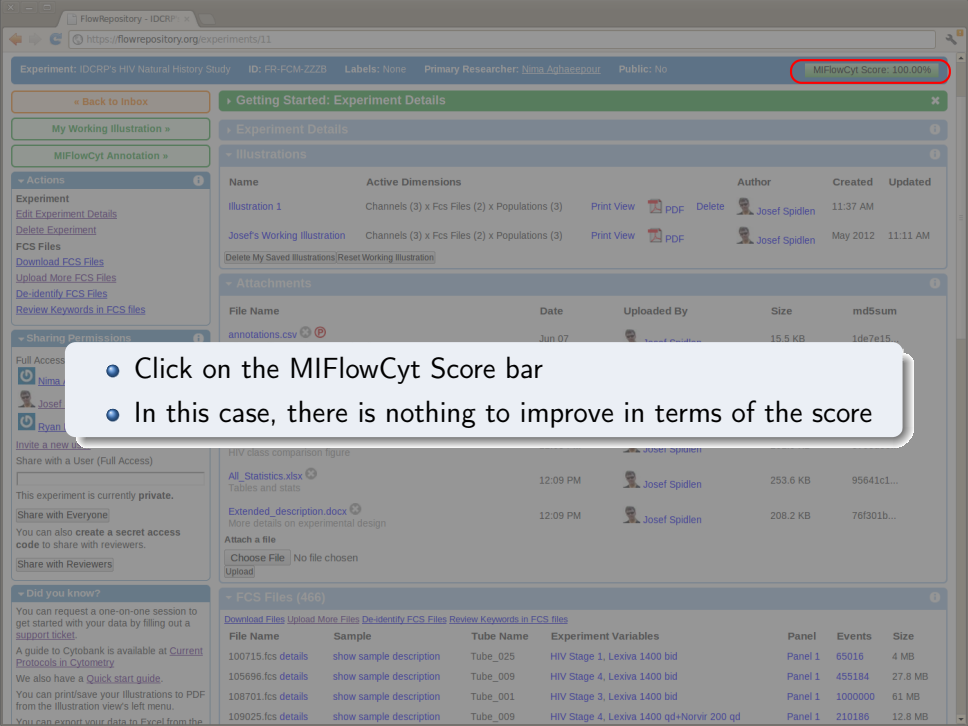
Attach a file

No file chosen

FCS Files (466)

[Download Files](#) [Upload More Files](#) [De-identify FCS Files](#) [Review Keywords in FCS files](#)

File Name	Sample	Tube Name	Experiment Variables	Panel	Events	Size
100715.fcs details	show sample description	Tube_025	HIV Stage 1, Lexiva 1400 bid	Panel 1	65016	4 MB
105696.fcs details	show sample description	Tube_009	HIV Stage 4, Lexiva 1400 bid	Panel 1	455184	27.8 MB
108701.fcs details	show sample description	Tube_001	HIV Stage 3, Lexiva 1400 bid	Panel 1	1000000	61 MB
109025.fcs details	show sample description	Tube_009	HIV Stage 4, Lexiva 1400 qd+Norvir 200 qd	Panel 1	210186	12.8 MB



- Click on the MIFlowCyt Score bar
- In this case, there is nothing to improve in terms of the score

« Back to Experiment Summary

MIFlowCyt

Show MIFlowCyt score details
[Report Suspicious Score...](#)

[Print View](#) [PDF](#)

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Use the "Download Files" button to save copies of the original FCS Files to your computer.

MIFlowCyt Compliance Score for Experiment: IDCRCP's HIV Natural History Study - Repository ID: FR-FCM-ZZZB

Total MIFlowCyt compliance score: 100.00%

1 - Experiment Overview - 100.00% provided

Items considered relatively based on importance, 30% contribution to total score.

Item	Compliance [+ -]	Improve
Purpose	✓ Provided purpose	Fully provided
Keywords	✓ Provided keywords	Fully provided
Experiment variables	✓ Provided experiment variables	Fully provided
Organization	✓ Provided organization name Provided organization address	Fully provided
Contact	✓ First name of primary researcher provided Last name of primary researcher provided Email of primary researcher provided	Fully provided
Date	✓ Provided experiment starting date Provided experiment end date	Fully provided
Conclusions	✓ Provided conclusions	Fully provided
Quality control measures	✓ Provided quality control description	Fully provided

• The "Improve" column will show direct links to pages/forms in case some information is still missing

2 - Flow Sample/Specimen Details - 100.00% provided

Items considered relatively based on importance, 30% contribution to total score.




FCS file	Compliance [+ -]	Improve
	✓ Provided sample description Provided sample source description	

Data sharing

- You can share with other FlowRepository users
 - This will grant full access
- You can make your experiment public
 - This will grant read access to everyone, including anonymous visitors
- You can share with reviewers

▼ Sharing Permissions ⓘ

Full Access Users

-  [Nima Aghaeepour](#) [PR]
-  [Josef Spidlen](#) [x]
-  [Ryan Brinkman](#) [x]

[Invite a new user](#)

Share with a User (Full Access)

This experiment is currently **private**.

[Share with Everyone](#)

You can also **create a secret access code** to share with reviewers.




[Share with Reviewers](#)

Data sharing

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 - This will lock your experiment and create a secret access code

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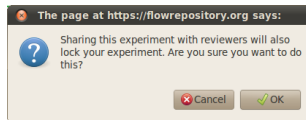
This experiment is currently **private**.

[Share with Everyone](#)

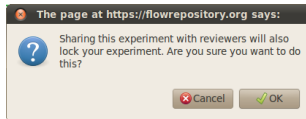
You can also **create a secret access code** to share with reviewers.

[Share with Reviewers](#)

Data sharing



Data sharing



Experiment was successfully updated. This experiment has been locked for reviewers' access and may be accessed via the following URL:

<https://flowrepository.org/id/RvFrFI5UsYaDgWZoVC6bxPrNUjMMcJlgxYxyXW5jXy62tEXyij1uHrxHvllL9nLL>

Please share this URL with your reviewers.

Sharing Permissions


Full Access Users

This experiment is currently **locked!** No users have edit access to this experiment.

This experiment is **shared with reviewers** via a [secret code](#).

What to do with the secret code?

- Share the “secret code” with the editor in your cover letter
- The editor will pass it to reviewers
- Reviewers will use it to obtain read-only access to your dataset
 - By navigating directly to
<https://flowrepository.org/id/RvFrFI5UsYaDgWZ....>
 - Or entering RvFrFI5UsYaDgWZ.... in the “Query” field

Query 

Enter a term to search all publicly available experiments:

[Show query fields](#)

What to do if editor/reviewer requires changes?

- Depending on the journal,
 - The editor may contact FlowRepository administrators and arrange for the dataset to be unlocked
 - Or, you may have to fill out a FlowRepository support ticket and ask for the dataset to be unlocked

[Terms of Service](#)

[Privacy Policy](#)

[Support](#)

[Feedback](#)

Summary

FlowRepository can be used to

- Access
- Review
- Download
- Deposit
- Annotate
- Share
- Analyze

flow cytometry datasets.

All you need is

- A computer
 - With Internet connection
- A web browser
 - With Java support
- An OpenID (e.g., Google Account)
 - Required for write access only

Site visits in the last 3 months

Overview

Visits ▾

Hourly

Day

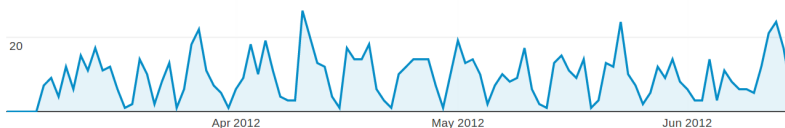
Week

Month

● Visits

40

20

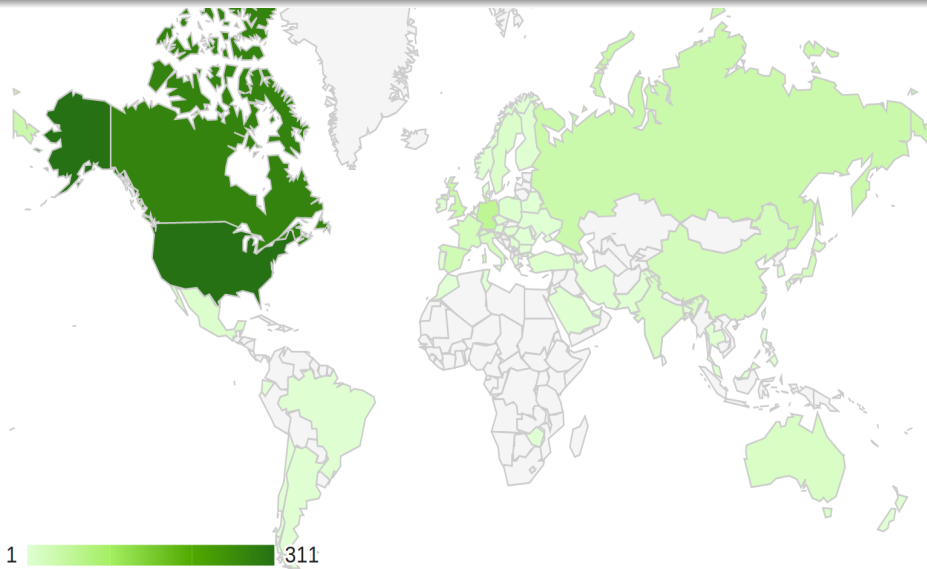


609 people visited this site

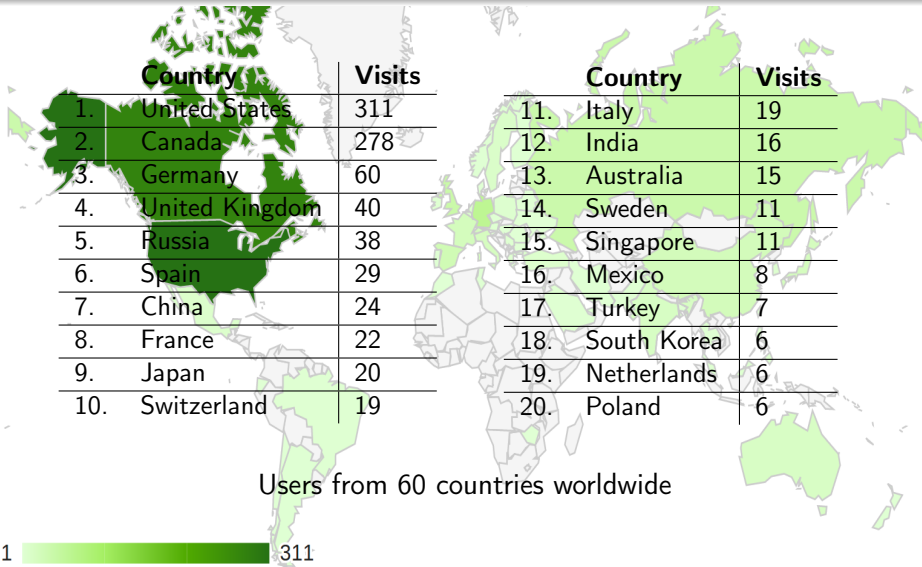


Visits: 991

FlowRepository Visits by Country, March – June 2012



FlowRepository Visits by Country, March – June 2012



Some more stats... (as of June 13, 2012)

But “only”

- 52 Registered users
- 31 Datasets
 - Only 8 of these public
- 4,850 FCS files (28 GB)

Some more stats... (as of June 13, 2012)

But “only”

- 52 Registered users
- 31 Datasets
 - Only 8 of these public
- 4,850 FCS files (28 GB)

→ Please share your data.

Additional resources

- Spidlen J, Breuer K and Brinkman RR. Preparing a Minimum Information about a Flow Cytometry Experiment (MIFlowCyt) Compliant Manuscript Using the International Society for Advancement of Cytometry (ISAC) FCS File Repository (FlowRepository.org). *Curr Protoc Cytom.* 2012 Jul; Chapter 10: Unit 10.18.
- Kotecha N, Krutzik PO and Irish JM. Web-based analysis and publication of flow cytometry experiments. *Curr Protoc Cytom.* 2010 Jul; Chapter 10: Unit 10.17.
- Spidlen J, Breuer K, Rosenberg C, Kotecha N and Brinkman RR. FlowRepository – A Resource of Annotated Flow Cytometry Datasets Associated with Peer-reviewed Publications. (*submitted*)
- FlowRepository quick start guide: https://flowrepository.org/quick_start_guide
- Cytobank documentation site: <http://docs.cytobank.org>


What new features to expect... (development in progress)


- FlowRepository Application Programming Interface
- Third party software will be able to
 - Directly work with datasets saved in FlowRepository
 - Deposit data to FlowRepository on your behalf
- In fact, initial implementation already exists in FlowJo™ (for now, only read access to FlowRepository is provided and only basic data and annotations shared)
- If you are a Flow Cytometry Software vendor, please talk to us!

What new features to expect... (development in progress)

- MIFlowCyt Reports

▼ MIFlowCyt Report

Generic: [Print view](#)  PDF

Cytometry A: [Print view](#)  PDF

Cytometry Part A

Author Checklist - MIFlowCyt-Compliant Items for Experiment Test 01 (Repository ID: FR-FCM-ZZZY)

Requirement	Requested Information
1.1. Purpose	Test, new clean install
1.2. Keywords	test
1.3. Experiment variables	<p><u>Doses</u></p> <ul style="list-style-type: none"> - 50 ug of A A03, A07, B03, B08, B09, B10, B11, D01, D03 - 100 ug of A A01, A08, B01, B04, B06, C01, C04, D04, D06 - 150 ug of A A02, A09, B02, C03, C06, C09, D02, D07, D08 <p><u>Individuals</u></p> <ul style="list-style-type: none"> - Mouse 1 A04, A06, A07, B08, C02, D01, D04, D06, E04 - Mouse 2 B01, B02, B03, B04, B06, B11, C01, C03, C09, D08, D10, E06, E07, E09, F02 - Mouse 3 B07, B09, B10, D02, D03, D09, E01 <p><u>Conditions</u></p> <ul style="list-style-type: none"> - unstimulated A03, A04, A06, B02, B08, C02, C03 - PMA-ionomycin for 6 hours A07, A09, B01, B03, B04, B11, C04, C07, D01 - PMA-ionomycin for 12 hours B06, B09, C01, C06, C08, C09, D02, D03, D04, D06, D07
1.4. Organization name and address	None
1.5. Primary contact name and email address	Josef Spidlen, jspidlen@gmail.com
1.6. Date or time period of experiment	2011-01-01
1.7. Conclusions	None
1.8. Quality control measures	None
2.1.1.1. (2.1.2.1., 2.1.3.1.) Sample description	All FCS files: Sample template 1
2.1.1.2. (2.1.2.1, 2.1.3.1) Sample source description	<p><u>Description</u> <u>Applicable to</u></p> <p>Mouse samples source 1 2nd Settings, A01, A02, A04, A06, A07, A08, A09, B01, B02, B03, B04, B06, B07, B08, B09, B10, B11, C01, C02, C03, C04, C06, C07, C08, C09, D01, D02, D03, D04, D06, D07, D08, D09, D10, E01, E02, E03, E04, E06, E07, E08, E09, F01, F02, F03, F04, F06, F07, F08, F09, F10, G01, G02, G03, G04, G06, G07, G08, G09, H01, H02, H03, H04, H06, H07, H08, H09, H10, Specimen_001_Tube_052.fcs, Specimen_001_Tube_053.fcs, Specimen_001_Tube_056.fcs, Specimen_001_Tube_057.fcs, Specimen_001_Tube_058.fcs, Specimen_001_Tube_059.fcs</p> <p>Unknown A03</p>
2.1.1.3.1 Source organism taxonomy	<p><u>Taxonomy</u> <u>Applicable to</u></p> <p>Mus musculus 2nd Settings, A01, A02, A04, A06, A07, A08, A09, B01, B02, B03, B04, B06, B07, B08, B09, B10, B11, C01, C02, C03, C04, C06, C07, C08, C09, D01, D02, D03, D04, D06, D07, D08, D09, D10, E01, E02, E03, E04, E06, E07, E08, E09, F01, F02, F03, F04, F06, F07, F08, F09, F10, G01, G02, G03, G04, G06, G07, G08, G09, H01, H02, H03, H04, H06, H07, H08, H09, H10, Specimen_001_Tube_052.fcs, Specimen_001_Tube_053.fcs, Specimen_001_Tube_056.fcs, Specimen_001_Tube_057.fcs, Specimen_001_Tube_058.fcs, Specimen_001_Tube_059.fcs</p> <p>Unknown A03</p>
	<p><u>Age</u> <u>Applicable to</u></p> <p>21 weeks 2nd Settings</p>

What new features and changes to expect...

- Relaxing some of the required annotations
- Annotation export in spreadsheet form
- User configurable inbox view
- Complete one click dataset download (with all attachments, illustrations, etc.)
- Better instrumentation support based on defaults obtained from manufactures
- Better performance for datasets with thousands of FCS files
- Better support for experiment variables (including continuous variables)
- Additional sanity checks, e.g., annotations vs. contents of the data files, possibly with the use of ontologies

What new features and changes to expect...

- Better import, export and merging
- Improved interface (e.g., more “smart” auto-complete)
- Better support for CyTOF
- Support for the Human Immunology Project Consortium (HIPC) Lyoplates
- Continuous improvements and fixes

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- Also, whatever the users ask for
 - As long as it is feasible to implement within our budget
 - This may be a good time to suggest additional features and improvements

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The End

Thank you!
Questions and Comments?

