

Flow cytometry platform

The team

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Services

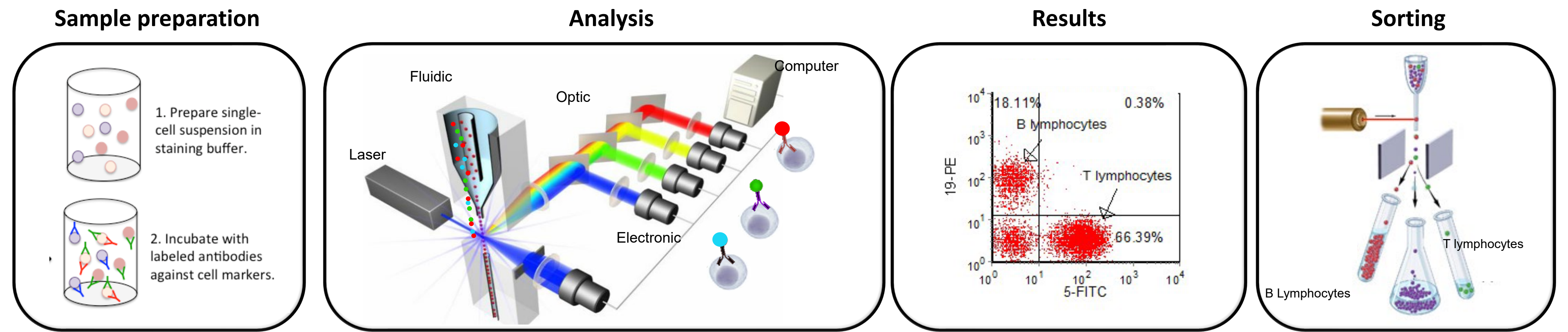
- FACSility offers up to 5 lasers flow cytometers (conventional & spectral) to :
 - Analyze and phenotype your biological samples
 - Sort your cellular and particulate suspensions
- Platform available to all academic labs, startup and industries

Contact

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What is Flow Cytometry ?

- Flow cytometry is a technique in which cells are suspended in a fluid flow. Cells are focused one at a time through a source of excitation light, which is scattered in patterns characteristic to the cells and their components.
- Cells are usually labelled with fluorescent markers so that light is first absorbed and then emitted.
- A sensor detecting the scattered or emitted light measures the size and molecular characteristics of individual cells. Tens of thousands of cells can be examined per minute and the data gathered is processed by computer.



- Sorting is based on droplet: after analysis of the cells, the stream is broken in droplets.
- Each drop containing the cell of interest is electrically charged and deflected into collection tube or plate.

Specificities

- Free access to cytometers for trained-users
- Assisted session with engineer for sorting or analysis
- Multicolor instrument setting and compensation matrix
- Quality control of the instruments
- Training and education
- Feasibility study
- Scientific collaboration
- Panel design
- Unsupervised analysis
- Wide choice of optical configurations
- Rates: real time use billing
- Online instrument reservation
- Data storage on server
- 4 analysis stations (Diva / Flowjo / SpectroFlo)
- 24-hour service access

Instruments

5 Analyzers



2 x BD FACS Canto II
 8 fluorescence channels
 3 lasers: 405, 488, 640nm
 plate loader (HTS)



Cytek Aurora
 64 fluorescence channels
 5 lasers: 355, 405, 488, 561 and 640nm



BD LSRFortessa
 16 fluorescence channels
 4 lasers: 405, 488, 640 and 561nm
 plate loader (HTS)



BD FACSymphony A3
 28 fluorescence channels
 5 lasers: 355, 405, 488, 561 and 640nm

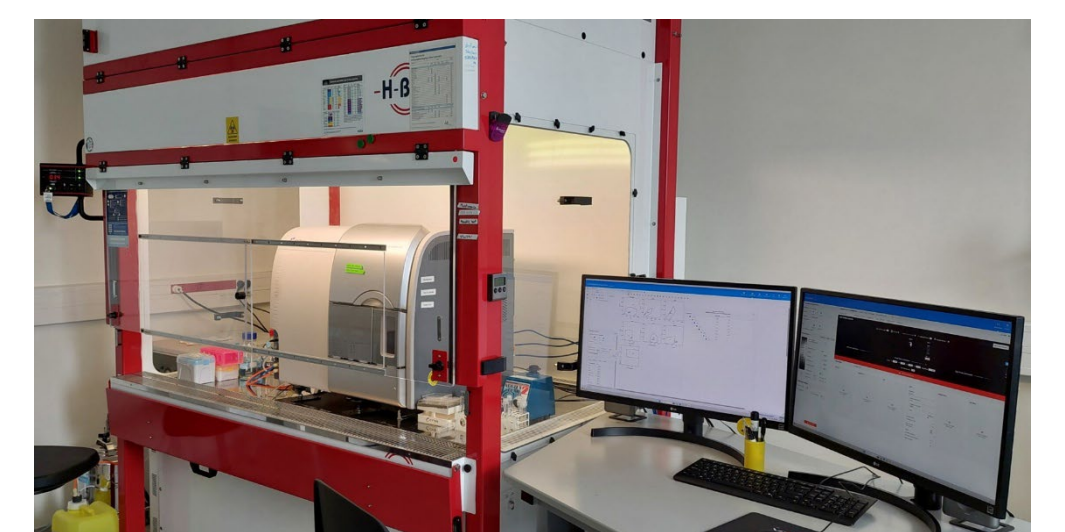
2 Sorters

BD FACS Melody :
 9 fluorescence channels
 3 lasers: 405, 488 and 640nm



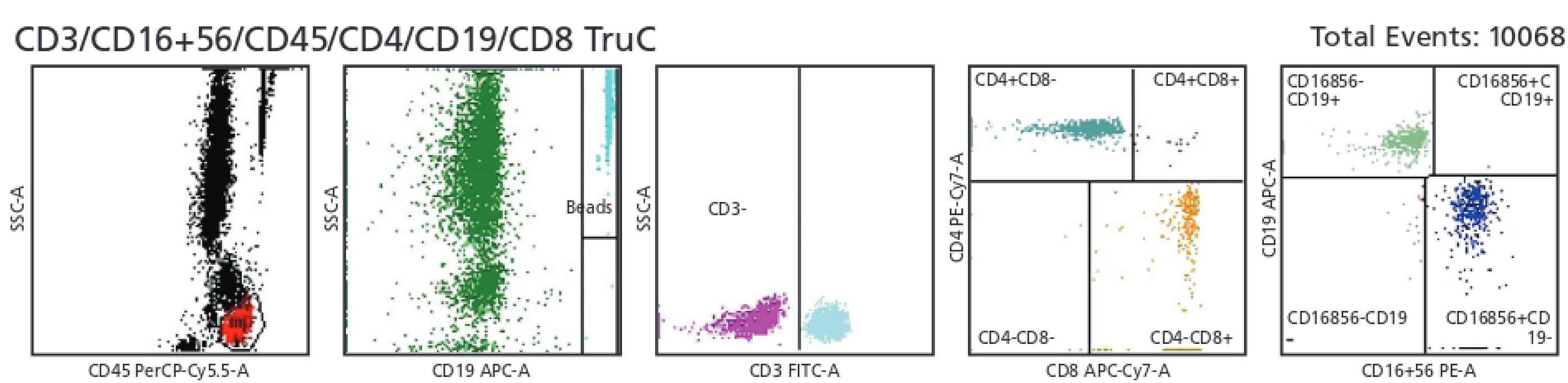
- High speed cells sorters
- Different size of nozzle (70, 85, 100, 130µm)
- Adjustable sheath pressure (20 to 70 PSI)
- 2 to 6 ways sorting in tubes (1mL to 15mL)
- cloning in plate from 6 to 384 wells, slide deposit

Cytek Aurora CS :
 64 fluorescence channels
 5 lasers 355, 405, 488, 561 and 640nm
 Biosafety cabinet

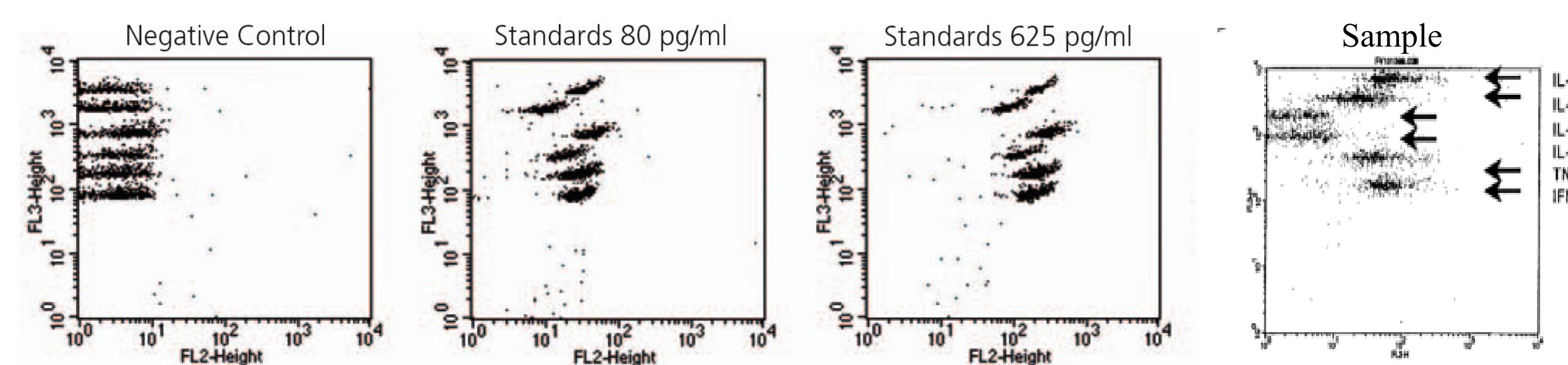


Examples of applications

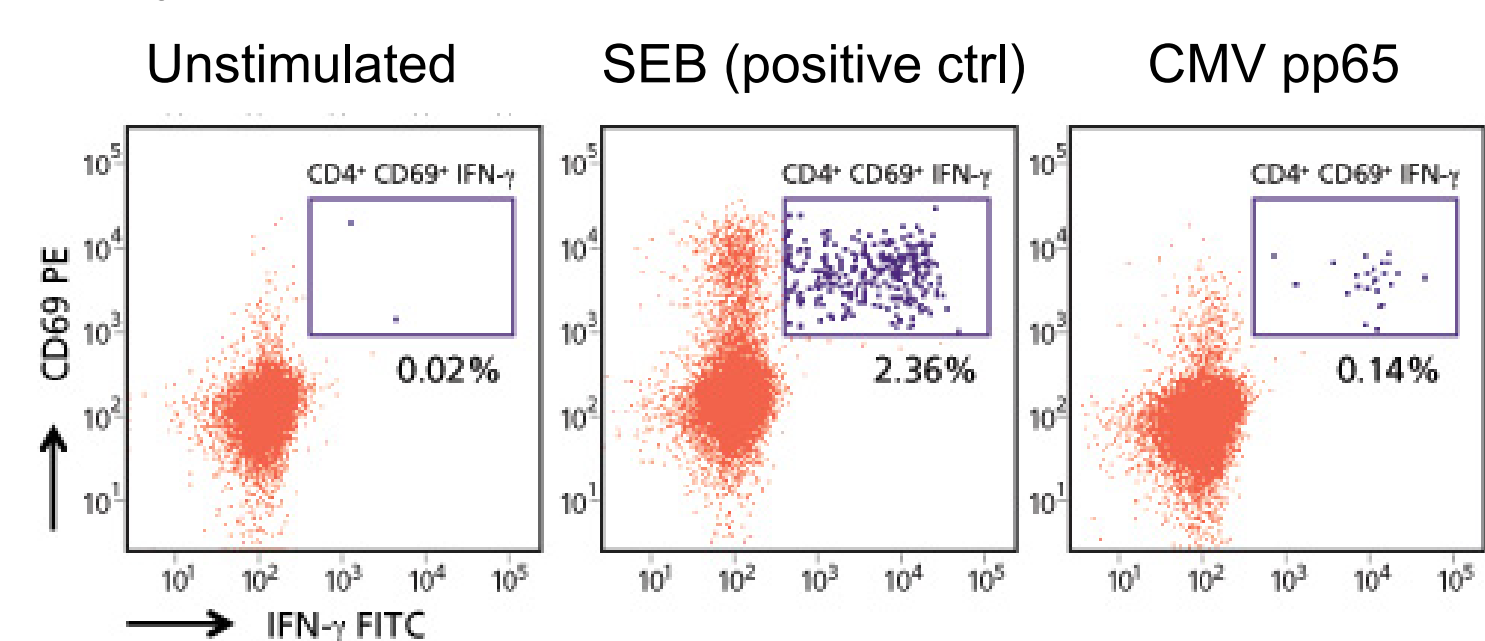
Immunophenotyping



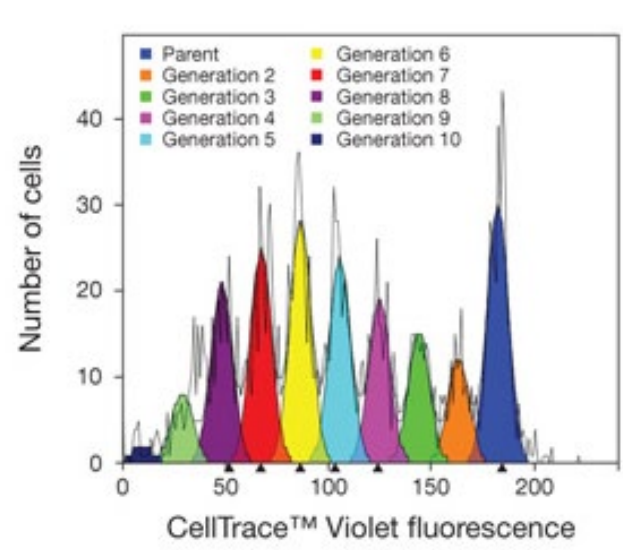
Cytometry Bead Array



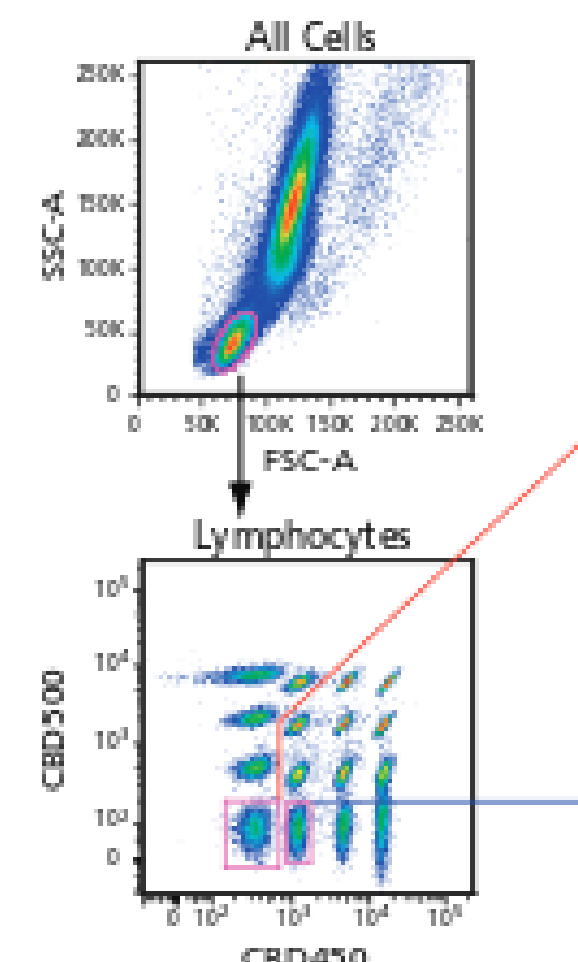
Cytokines



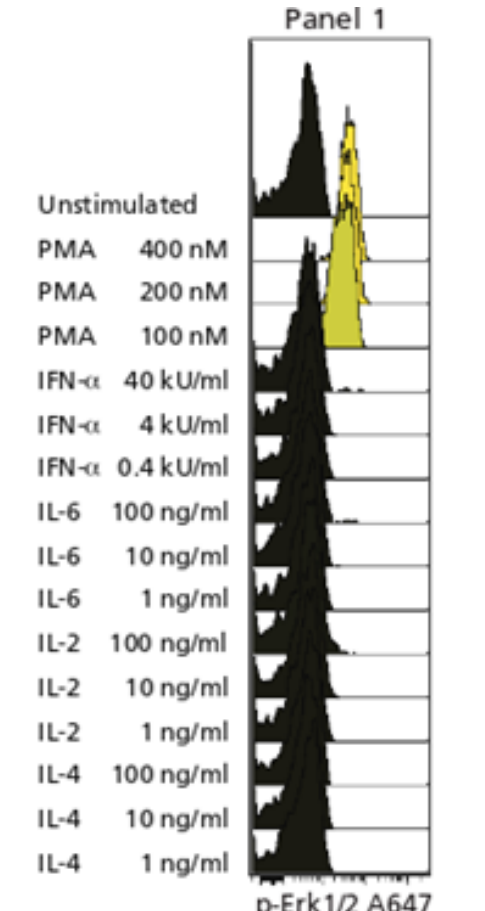
Proliferation



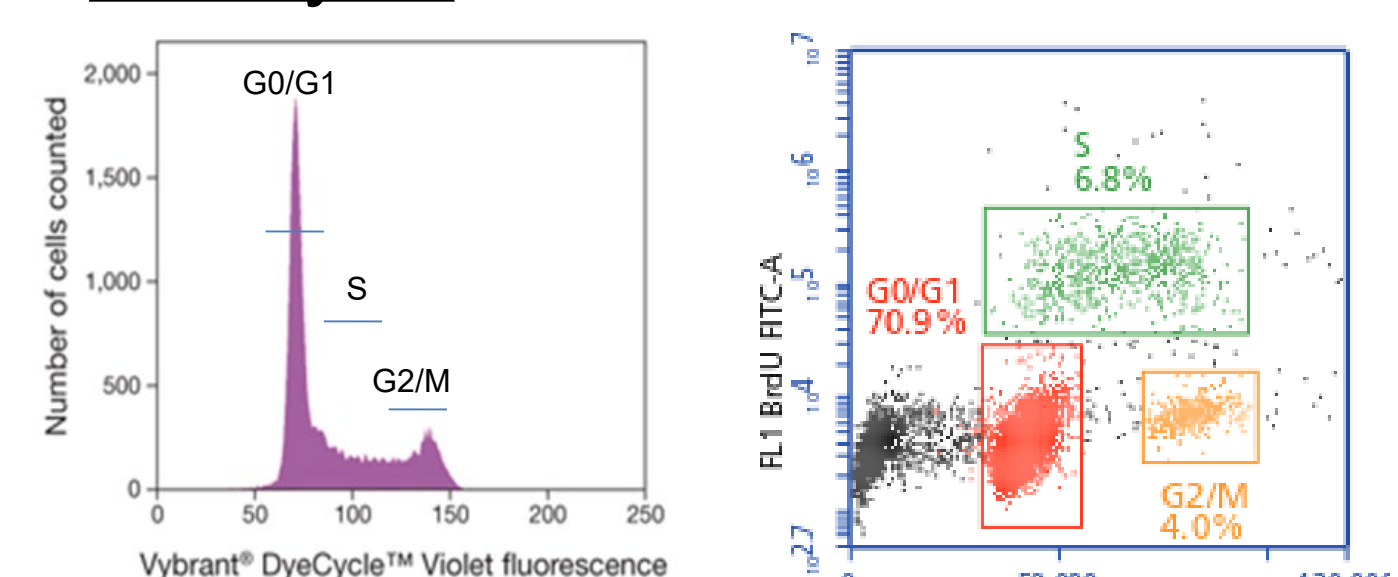
Cell barcoding



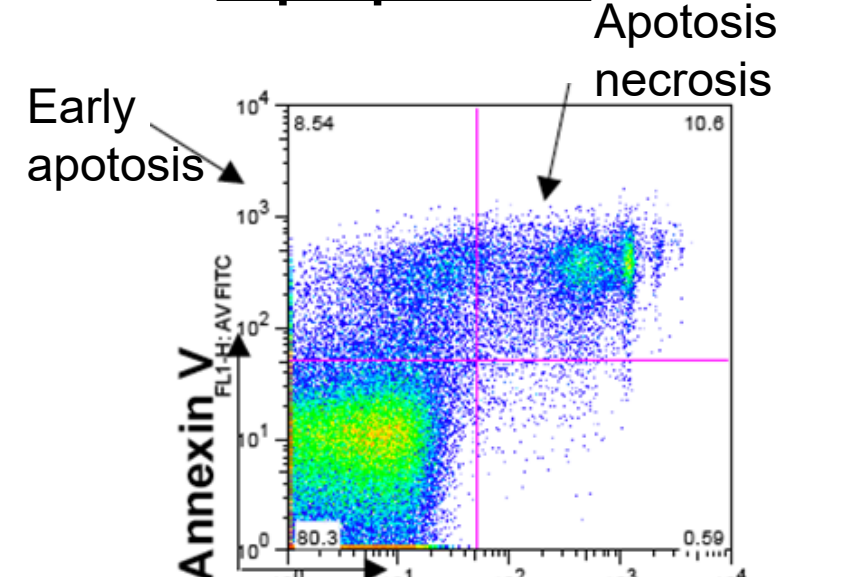
Signalisation - Phospho prot



Cell cycle



Apoptosis



Sorting

Sorting subsets of memory T cells from human PBMC Cells sorted on Aria IIIu BD with refrigeration of collected cells at 4°C

With the courtesy of Mélanie Nguyen Ky and Adrien Duran (Nathalie Schmitt Lab)

Purity of each population check by flow cytometry

Quality of RNA checked after sort

T0= Directly after sort
T1= after 18h stimulation
T2= After 2 days of co-culture T/B

B1: b7-x5- T0
C1: b7-x5- T1
D1: b7+x5+ T1
E1: b7-x5- T2
F1: b7+x5- T2
G1: Memory B b7+ T0

In vitro tests

RT-qPCR **Single cell analysis**