www.innocyto.com

Flow Cytometry Panel Design Cheat Sheet

1. Define the Biological Question

- ☐ Identify primary population
- ☐ List essential markers
- ☐ List optional markers
- ☐ Identify expected low-expression markers
- ☐ Identify co-expression patterns

2. Confirm Instrument Configuration

- ☐ List available lasers
- ☐ Confirm detector/filter configuration

3. Rank Markers by Antigen Density

Expression Level	Fluorophore Strategy
Very Low	Assign brightest dyes
Moderate	Assign moderate dyes
High	Assign moderate/dim dyes

4. Evaluate Spectral Overlap

- ☐ Avoid overlapping dyes on co-expressed markers
- ☐ Distribute markers across laser lines
- ☐ Review emission spectra before finalizing

5. Controls Checklist

- ☐ Unstained control
- ☐ Single-stained compensation controls
- ☐ FMO controls for dim markers
- ☐ Isotype controls for nonspecific binding
- ☐ Biological negative control

6. Final Review

- ☐ Are brightest dyes reserved for dim markers?
- ☐ Are co-expressed markers spectrally separated?
- ☐ Are essential markers prioritized?
- ☐ Are controls planned?

ESSENTIAL TOOLS

Spectra Viewer

innocyto.com/web/fluorescence-spectra-viewer.php

Cell Marker Expression Tool

innocyto.com/web/cell-maker-expression-tool.php

Fluorophore Brightness Tool

innocyto.com/web/fluorophore-brightness-tool.php

Panel Builder

innocyto.com/web/panel-builder-tool.php

InnoCyto, Inc. 15375 Barranca Parkway, Suite I-103 Irvine, CA 92618 | Tel: 1-949-418-7543 | Email: info@innocyto.com