

# Get The FACS

UNMC FLOW CYTOMETRY RESEARCH FACILITY

FEBRUARY 2018

## In This Issue

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### FEATURED CORE USER

Cortney Heim, PhD

Page 4

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### QUICK TIPS: CELL CYCLE ANALYSIS

Get the best data you can with these 5 tips!

Page 3

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## DID YOU KNOW...

The idea of modern cell sorting is adapted from the principles used for inkjet printing!



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## CONTROLS - FLOW CYTOMETRY'S BEST FRIEND

What controls do I need and why do I need them? We get these questions every day. Learn more about what types of controls you may need for your experiment!

Page 2

# Controls: Flow Cytometry's Best Friend

## SINGLE COLOR CONTROLS

- Allows for **compensation** of multi-color experiments (must be the exact same fluorochrome used in the experimental samples for the compensation to be correct)
- Extremely useful for **gating data**
- A helpful **troubleshooting** tool

## NEGATIVE CONTROL

- Allows for **correct compensation**
- Extremely useful for **gating data**

## FLUORESCENCE MINUS ONE (FMO)

- Extremely useful for precisely **gating data** of very small populations

## ISOTYPE CONTROL

- Only needed for experiments with **primary & secondary staining** techniques

## VIABILITY STAIN

- Allows for the exclusion of dead cells for more **precise gating and data analysis**

Find instrument configurations, scheduling and more!

[Visit Our Website](#)

# Quick Tips - Cell Cycle Analysis

- 1** Count your cells! The correct concentration of DNA stain is directly related to the number of cells you are staining.
- 2** If fixing your cells with Ethanol, add it drop-wise while vortexing to help prevent clumping.
- 3** Titrate your DNA stain! In addition to counting your cells, you must titrate your stain to find the optimal concentration for your cell number.
- 4** Use a slow flow rate. Faster flow rates can cause an increase in the CVs of your data, making it more difficult to accurately model.
- 5** Gate out your doublets! Two G0/G1 cells stuck together will have the same fluorescence intensity as one G2M cell, thus skewing your data.

## Are You Using The Correct Tubes?

**REMEMBER:** The only tubes that fit on our Flow Cytometry Analyzers are the FALCON 5mL Polystyrene Round-Bottom Tubes

**REF #: 352354**

Follow us on Facebook and Twitter for all things  
#FlowCytometry!  
**@FlowUNMC**

# Featured Core User

**Name:** Cortney Heim, PhD

**Department:** Pathology & Microbiology

**Principal Investigator:** Tammy Kielian, PhD

**"We are interested in the host immune response to *S. aureus* biofilm infection.**

**Specifically, the role of myeloid-derived suppressor cells (MDSCs) in biofilm persistence. Flow cytometry allows us to study this complicated, heterogeneous population of cells both in vivo and ex vivo, in mice and humans, and has helped advance our work significantly."**



**Need to use the Flow Cytometer before or after normal business hours? Speak to the Flow Staff today about training for out-of-hours use!**

## Contact Us

DRC 1056

(402) 559-6267

fcrf@unmc.edu

[unmc.edu/vcr/cores/vcr-cores/flow-cytometry](http://unmc.edu/vcr/cores/vcr-cores/flow-cytometry)