

Adding Flow Cytometry to your Bio-ARROW Protocol

Contact Information

Please contact the Office of Biological Safety if there are any further questions at biosafety@fpm.wisc.edu or 608-263-2037.

Work Covered by this Guidance Document:

This guidance document **only** covers how to add flow cytometry and cell sorting experiments to your Bio-ARROW protocol. Please note that the BSL (biosafety level) classification of samples may be different for standard procedures and for aerosol generating procedures. Typically, BSL levels are higher for cell sorting purposes because the sample is aerosolized by the sorter and aerosol incidents are common during operations, which greatly increases the risk of an exposure and transmission.

Description of Locations:

For UWCCC Flow Cytometry core facility, please list rooms and equipment that will be available for your experiments. Please consult with Flow Cytometry core facility personnel to determine the appropriate equipment:

| Building | Room | Biosafety Level | Containment Equipment |
|-------------------------------|-------|-----------------|---|
| WIMR | 7016 | BSL2 | N/A |
| WIMR | 7018A | BSL2 | N/A |
| WIMR | 7018B | BSL2 | Biological safety cabinet (BSC) |
| WIMR | 7018C | BSL2 | Biological safety cabinet (BSC) |
| WIMR | 7018D | BSL2 | N/A |
| WIMR | 7018E | BSL2 | Biological safety cabinet (BSC), Fume Hood |
| Genetics-Biotechnology Center | 2360 | BSL2 | Biological safety cabinet (BSC), Fume Hood, Other-bioBubble |
| Genetics-Biotechnology Center | 2360B | BSL2 | N/A |

If 2360 Genetics-Biotechnology Center is listed in the protocol, please clarify in “2. Other Relevant Info” that the BSC Certification Program will do a performance test for the bioBubble.

Please select “Core facility (Shared area with specialized research support equipment; e.g. Flow cytometry, CMN, SMSSF, etc.)” under room use.

For other flow laboratories, please include all facility information as applicable.

Biosafety Precautions – Containment:

Please indicate the containment used for sorting or analyzing cells in “7. Flow Cytometry Containment”.

Please upload document(s) describing precautions used during transport for materials listed in your protocol in “8. Transport Procedures”.

Biosafety Precautions – PPE:

If laboratory personnel will use different or additional personal protective equipment (PPE) while performing flow cytometry experiments, please add a separate entry to specify the PPE worn under “3. PPE-General”. Guidance for completing this section can be found at <https://kb.wisc.edu/arrow/ibc/110698>. Respiratory protection requirements for UWCCC Flow Cytometry core facility personnel for equipment malfunctions should not be included in this section.

Biosafety Precautions – Disinfection/Inactivation:

In “3. Disinfection and Inactivation-General”, please include disinfection procedures for surfaces and equipment. If procedure will vary by location, please clarify in the table as appropriate or refer to a facility SOP. Please note that some agents may not be compatible with flow cytometers or the bioBubble.

In “5. Spill and Release Procedures”, please upload document(s) describing your laboratory’s biological spill procedure(s).

Research Description:

Please briefly describe cells your plan to sort or analyze (i.e., origin, live or fixed cells, rDNA expression, genetic engineering methods, labels, etc.). If any of the agents or treatments used in a sort experiment are associated with aerosol hazard (i.e., toxin, hazardous genetic elements expressed like oncogenes, potentially infectious agents, viral vectors, etc.), all these should be listed and described. If experimental samples are not associated with any hazard risk (i.e., BSL-1), state that accordingly. If more than one flow cytometry location is listed in the protocol, please specify cells that will be sorted or analyzed at each location. If sorting or analysis will be performed in the UWCCC Flow Cytometry core facility, please specify if laboratory personnel will perform the activity or if core staff will perform activities.