**Cell Sorting Addendum**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Exempt BSL-1** | **BSL-1** | **BSL-2** | **BSL-2 +**  **(enhanced precautions)** |
| **Examples of cells/samples** | Wild-type cells from murine or other non-human/non-primate species that have **NOT** been exposed to any microbial agent (e.g., viral, bacterial, fungal, protozoan, or parasitic) and **have NOT been** genetically modified. **Or** cells determine by EH&S to be recombinant NIH- exempt BSL-1.  *Examples: primary murine splenocytes, fibroblasts, or bone marrow derived macrophages without genetic modification or pathogens present.* | Cells from murine or other non-human/non- primate species that have not been exposed to any microbial agent but have been genetically modified using non-viral methods (e.g., cells from transgenic animals or cells treated with nucleic acids). **Or** cells determined by EH&S to be approved as non-recombinant BSL-1 or recombinant BSL-1. *Examples: NIH 3T3, B16-F10, 4T1; S. cerevisiae; genetically modified with non-viral methods.* | Cells of human or non-human primate origin or cells that have been genetically modified using viral methods or cells exposed to microbial agents (e.g., viral, bacterial, fungal, protozoan, or parasitic) and **have** been approved by EH&S for BSL-2 containment and sorting.    *Examples: HEK293T, HeLa, RAW264.7; murine and human cell lines transfected with* ***3rd generation lentivirus or later.*** | Cells of human or non- human primate origin or cells that have been genetically modified using viral methods or cells exposed to microbial agents (e.g., viral, bacterial, fungal, protozoan, fungal, parasitic) **that have elevated risk if aerosolized** and have been approved by EH&S for BSL-2+ containment and sorting.  *Examples: primary human PBMCs from healthy donors not screened for pathogens, murine or human and murine cell lines transfected with* ***2nd generation lentivirus.*** |
| **PPE Required** | Lab attire is required (Closed-toed shoes and long pants). When manipulating samples (e.g., loading and unloading) gloves and lab coat are recommended.  Spills (**required**): Lab coat, and nitrile gloves. | Lab attire is required (Closed-toed shoes, long pants and lab coat). When manipulating samples (e.g., loading and unloading) gloves and lab coat are required.  Spills (**required**): Lab coat, and nitrile gloves. | Lab attire is required (Closed-toed shoes, long pants, lab coat, and gloves **required** at all times. When manipulating samples (e.g., loading and unloading) eye protection is also required.  Spills (**required**): Lab coat, nitrile gloves, and goggles. | Lab attire is required (Closed-toed shoes, long pants, lab coat, and gloves at all times. When manipulating samples (e.g., loading and unloading) eye protection and an N95 respirator is also **required**.   Spills (**required**): front-closed gown, nitrile gloves, goggles, and N95 respirator. |
| **Room Restrictions** | None | None | Yes, door to room must be closed during sort and the BSL-2 Biohazard sign posted on the outside. | Door to room must be **locked** during sort and the BSL-2+ Biohazard sign posted on the outside. Room will be monitored for negative pressure prior to and during sort. |

**Note: BSL-3 or higher samples are not accepted in the MSU Flow Cytometry Core Facility**.

**\*Please refer to the NIH Sorter Biosafety Guidelines and 2014 ISAC guidelines for more information pertaining to appropriate classification of cell lines/types and vectors:**

NIH Sorter Biosafety Guidelines: <https://policymanual.nih.gov/3038>

ISAC Sorter Biosafety Standards: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4117398/>

**Cell Sorting Addendum**

Please complete this form if you have indicated that you will be sorting any material associated with

your IBC-reviewed Biosafety Protocol submission

|  |  |
| --- | --- |
| **IBC Registration #** |  |
| **Principal Investigator (Name):** |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Cell type for Sort**  **(cell line; species; origin)**  **List one cell type per row.**  *e.g. MCF10a, Human; breast cancer cell line* | **Biosafety Level Required: BSL-1, BSL-2 or BSL-2+**  \*(see table on page 1) | Have the cells been genetically modified?  *e.g. 3rd gen lentivirus*  *pP::Her2/cMyc*  (Vector must match the IBC description) | If exogenous genes are transferred into the cell, are any of these genes known oncogenes or toxins? | Does the sample contain any other known infectious agents?  *e.g. V. cholerae* | If infectious agents are present, has the infectious agent been inactivated?  *e.g. Fixed, 4% PFA for 30 minutes* | **If using samples from human origin:**  Were tissue/blood donors screened for the following pathogens: HIV, SIV, HepB, HepC, HepD,  Herpesvirus simiae, HTLV-1, HTLV-2, LCMV, SARS, COVID-19, M. tuberculosis, M. bovis, N. meningitides? |
|  | BSL-1  BSL-2  BSL-2 + | No  Yes – List transfection method, plasmid[s] used: | No  Yes - List the gene[s]: | No  Yes – List: | No/Unknown  Yes - Describe the method: | Not applicable  No: Unknown  Yes -List pathogen and the test results: |
|  | BSL-1  BSL-2  BSL-2 + | No  Yes – List transfection method, plasmid[s] used: | No  Yes - List the gene[s]: | No  Yes – List: | No/Unknown  Yes - Describe the method: | Not applicable  No: Unknown  Yes -List pathogen and the test results: |
|  | BSL-1  BSL-2  BSL-2 + | No  Yes – List transfection method, plasmid[s] used: | No  Yes - List the gene[s]: | No  Yes – List: | No/Unknown  Yes - Describe the method: | Not applicable  No: Unknown  Yes -List pathogen and the test results: |

***Copy and paste additional rows for each cell type or infectious agent***