Bloodborne Pathogen Exposure Plan Checklist

Section I: General Laboratory Information

1. Name of Principle Investigator(s) or Supervisor(s): Scott Manalis

2. PI signature:

Date:

3. Department/Lab/Center: Biological Engineering/Media Lab

4. Office Number and Phone Number: E15-422 253-5039

5. Laboratory Room Numbers where human materials are used and/or stored: E15-420

6. COUHES Approval # (http://web.mit.edu/committees/couhes/ x3-6787). COUHES approval is not necessary for using established human cell lines. 0509001359

7. Accepted for the EHS Office's Biosafety Program by Signature of EHS Office Lead Contact:

Date:

Section II: Brief Description of the Project(s)

Our project aims to use microfabricated devices to count and characterize human blood cells.
(1) We will measure healthy and parasitically infected red blood cells that come from the labs of Subra Suresh and Johanna Daily. The devices will take advantage of change in red blood cell density as a result of infection by *Plasmodium falciparum*.
(2) We will measure B-cells from the BJAB tumor line (EBV negative, Human Burkett's Lymphoma Line) from Daniel Haber's lab at MGH Charlestown campus. We observe changes to the cells as they undergo apoptosis in response to a specific agent (Staurosporin)

Section III: Occupational Exposure

1. Infectious Materials Used in This Laboratory *(check all that apply)*

☒	a. Established human cell lines (list cell name and/or tissue type) Is this from a cell line repository, commercial source or another investigator? BJAB B-cell tumor line (EBV negative, Human Burkett's Lymphoma Line) from Daniel Haber's lab at MGH Charlestown campus.
☒	b. Human blood, serum, plasma, blood products, components, or primary cell cultures or primary cell lines. (List cell name and/or tissue type) Was the specimen tested for any viral agents? If so, what? Healthy and *P. Falciparum* infected red blood cells will be provided via the Suresh laboratory. Origination of these cells is Research Blood Components and the specimens will have been tested for viral agents.
☐	c. Human body fluids: cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, semen, vaginal secretions, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and body fluids in situations where it is difficult or impossible to differentiate between body fluids. (list body fluid type and source)
☐	d. Unfixed human tissue or organ (other than intact skin). (list tissue type and source)

☐	e. Cell, tissue or organ cultures containing HIV; culture medium or other solutions containing HIV or HBV; blood, organs or other tissues from experimental animals infected with HIV or HBV. (list cell name and/or tissue type, and source)

2. Job Classifications with Occupational Exposure: Please list names, email, and job classification for those who work with human materials.

Name	Email (kerberos)	Job Classification (e.g. Post Doc, Grad Student, UROP)
Andrea Bryan	akbryan	Grad Student
Will Grover	wgrover	Post Doc
Amneet Gulati	amneetg	Grad Student
Jay Lee	jayclee	Post Doc
Wesley Weng	ycweng	Grad Student

3. Procedures and Tasks Involving Human Blood or Other Infectious Material

☐	a. Injections into humans or animals using human specimens including cell lines.
☐	b. Other use of needles with human specimens including cell lines.
☒	c. Preparing, dissecting, cutting, or otherwise handling human blood, tissue, or cell lines.
☒	d. Pipetting, mixing, centrifuging, or vortexing human blood, fluid, tissue, or cell lines.
☒	e. Handling tubes or other containers of human blood fluid, tissue or cell lines.
☒	f. Cleaning up spills of human blood, other body fluids or cell lines.
☒	g. Preparing or handling primary and established human cell cultures.
☐	h. Basic first aid with human blood or fluid exposure.
☐	i. Performing cardiopulmonary resuscitation (CPR).
☐	Other: *(please specify)*

Section IV. Sharps Management

1. List Special Sharps Procedures Currently Being Used For Needles or Sharp Medical Devices.
If needles or other sharp medical devices are not handled as part of the research, please put N/A below and proceed to Section V. For those who handle needles: **recapping needles by hand is prohibited.**

Procedure	Mechanical Devices Used	Recap	If recap, what method is used?
An enclosed needle is part of an autosampler that is used to take samples from vials	Autosampler enclosed needle	☐	The needle is enclosed behind a shield – no need to recap
		☐	

2. The PI and/or Supervisor must solicit input from the laboratory/work area personnel who are potentially exposed to injuries from contaminated sharps in identification, evaluation, and selection of effective engineering and work practice controls and must document that solicitation in the Exposure Control Plan. Please document consideration and implementation of appropriate commercially available effective safer medical devices designed to eliminate or minimize occupational exposure.

There is no alternative to using the autosampler needle. There is no exposure potential because the needle is enclosed. The last vial to be sampled by the needle contains 10% bleach.

Section V. Equipment Decontamination

1. List Instructions and Schedule for Decontaminating and Maintaining Equipment

Facility area, surface or equipment to clean and/or decontaminate (Example: biosafety cabinet, centrifuge, benchtop)	Decontamination Instructions (Example: wipe with 70% ethanol before and after working in cabinet)	Frequency (e.g. daily, weekly)	Cleaning Agents and Disinfectants Used (e.g. 10% bleach, 70% ethanol)
benchtop	Wipe with 10% bleach before and after working on benchtop	Daily	10% bleach
autosampler, syringe pump, tubing, and chip, a 10% bleach solution will be run through the autosampler, syringe pump, tubing and chip.	10% bleach solution will be run through the autosampler, syringe pump, tubing and chip. The chips will be reused a number of times.	Daily	10% bleach
Chemical hood	Wipe with 10% bleach before and after working in chemical hood	Daily	10% bleach
Microscope	Wipe with 70% ethanol solution if contaminated	When contaminated	70% ethanol

2. Specify any special waste handling procedures, if applicable.
All blood cells (healthy and *P. falciparum* infected red blood cells and BJAB cells) as well was bacteria will be treated with bleach (10% final volume) before drain disposal.

3. Do you have a piece of equipment that you cannot disinfect or clean? Please identify that equipment below and provide the reason(s) why it cannot be cleaned or disinfected.

Section VI. Engineering Controls

List what Engineering Controls are Utilized (e.g. biosafety cabinet, sharps containers, etc.)

Engineering Control (e.g. sharps container, biosafety cabinet)	Location (bldg-room)	Schedule of Maintenance (e.g. examining and maintaining daily, weekly, annually)	Person Responsible for reviewing effectiveness of these controls
Sharps containers	E15-420	Monthly; request pick up to biosharps@mit.edu when full	Tom, Andrea, Amneet
Chemical fume hood	E15-420	Tested annually	Tom, Andrea, Amneet

Section VII. Personal Protective Equipment (PPE)

List how PPEs are used, decontaminated and disposed.

Personal Protective Equipment	Tasks Requiring Use	Person Responsible for Providing PPE	Disposal Instructions	Decontamination Instructions
Disposable Gloves	All tasks using the human blood	Tom, Andrea, Amneet	Biosharps container	Picked up by Stericycle for decon/ disposal
Utility Gloves				
Laboratory Coats	All tasks using the human blood	Tom, Andrea, Amneet	Biosharps container	Picked up by Stericycle for decon/disposal
Safety Glasses				
Aprons				
Face Shields/ Masks				
Other (e.g. shield)				

Section VIII. Spill Decontamination

List procedures for picking up broken contaminated glassware (i.e. tongs, dustpan and brush, forceps) and indicate the location of spill clean-up materials or spill kits. See the MIT Emergency Response Flip Chart posted in the laboratory for spill clean-up procedures.

Broken glass is not to be picked up by hand. Tongs or dustpan and brush will be used. Tongs and dustpan and brush will be disinfected after use.

Location of spill clean-up materials including disinfectant, paper towels, dustpan/brush and/or tongs: Next to chemical hood and apparatus area in E15-420 where handling of materials will take place.