NIHR BRC Phenotyping Hub, Department of Medicine
Risk Assessment Form

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All staff listed on

https://www.med.cam.ac.uk/nihr-cambridge-brc-cell-phenotyping-hub/staff-and-links/

And all users that have gained permission to work via Hub induction and Instrument Specific Training

Activity being assessed: Processing, FACS-analysing and/or cell-sorting human tissue and blood samples
Hazards identified:

Unscreened human blood or tissue may contain Blood Borne Viruses including HIV and Hepatitis B

Therefore, unscreened human samples should be handled at Containment Level 2 in accordance with the revised ACDP guidance from the HSE.

Guidance Documents: See

University booklet “Safe Biological Practice (SBP) – for Prevention and Control of Exposure to Biological Agents in the Laboratory”

University Clinical School Guidance on Blood Taking, Blood Handling and Work at Containment Level 2.

Advisory Committee on Dangerous Pathogens (ACDP) Guidance “Protection against bloodborne infections in the workplace- HIV and Hepatitis (HSE/HMSO : ISBN 0 11 321953 9)

Revised Advisory Committee on Dangerous Pathogens Guidance (www.doh.gov.uk/ACDP):-
Control measures to reduce the level of risk:

General Points

All work must be conducted in a designated Cl2 work area (nine labs below)

JCBC L00-R19 Sorting Lab 2
JCBC L00-R18 Sorting Lab 3
JCBC L00-R13 Analyser Room 2
JCBC L00-R11 GLP Room
JCBC L00-R14 Analyser Room 1
JCBC L00-R15 Tissue Culture
E6 analyser lab1
E6 sorter lab 1
E6 tissue culture lab

Access to Cl2 areas is restricted to authorised staff via personal ID cards. Borrowing these cards is not permitted. All users will be advised during compulsory Hub induction on the necessity of restricting activities to those that are risk assessed. Sort bookings are only accepted after our Biosafety form that includes approval by the departmental GMO (Prof. John Sinclair) and /or BSO. (Dr Mark Wills)

Blue labcoats are compulsory in all Cl2 areas and are provided in various sizes in each room. Users must not move between labs with blue lab coats on and must wear disposable gloves, which are also provided in 3 sizes.

The workstations must be kept clear of unnecessary equipment and not used for storage.

The machines must be cleaned with detergent (several minutes), followed by water (several minutes) Waste tank should be supplemented with Virkon tablets (for machines with plastic units) or Distel (for machines with metal tanks).

Specific Risk Controls

1 The use of sharps and glassware should be avoided.

Particular care must be taken in their handling and disposal of unfixed materials. Cardboard Biobins are available for pipette tips

2 Aerosol generation from flow cytometers is inevitable while exchanging samples as pressure changes quickly between ambient and 20psi. These aerosols can neither be contained nor prevented. Consequently, all our cell sorters are housed in Cl2 Microbiological Safety Cabinets which are serviced once a year by a licensed contractor and subject to service fumigation protocols (covered by 1_RA-fumigation-risk assessment at URL above)

3 Lesions on exposed skin should be covered with waterproof dressings.

Protective eyewear is also provided but not compulsory.
Fluidic blockages can only be investigated by trained staff and service engineers. After unblocking, the machine should be left for 5m for aerosol to settle before recommencing sample acquisition.

Deblocking is performed under standard GLP (with syringe and luer lock adapter to inject either detergents or bleach)

In situations where unfixed samples present risk levels above 'low' and the approval of Safety Committee has not been obtained, it may be possible for these samples to be run on MSC contained cell sorters by authorised core facility staff.

In general, **unscreened samples which are not PFA-fixed** cannot be processed in the hub without prior submission

**Level of risk remaining:** Low

**Name and status of assessors:** Simon McCallum

**Date of assessment:** 13th March 2023

**Signature of assessor:**

**Revision due date:** 13th March 2023