PREPARED BY
Name:
Designation :
Risk Assesment Date:

LABORATORY:
REVIEW DATE:
APPROVED BY
Name:
Designation:
Approved Date:

NEXT REVIEW DATE:

INTRODUCTION

Biological safety level: BSL 2

Biological materials manipulated in the laboratory: Bacteria/ Virus/ Cell Lines

		Risk/harzard Identification	Risk Characterisation/Evaluation			Comments
A	**GENERAL HOUSEKEEPING**	**N= Non Compliance, Y= Compliance, NA = Not applicable**	**Likelihood (1-5)**	**Consequence (1-5)**	**Risk Level (1-5)**	
1	Bench tops are free from excessive clutter and clean					
2	Floors are clean and not slippery					
3	Chemical containers are not stored on the floor in aisles or near exits					
4	Laboratory and storage areas uncluttered and orderly (including bench-top)					
5	Aisles & exits are free from obstruction					
6	Electrical cords are in good condition					
7	Glassware is free from cracks, chips, sharp edges and other defects					
8	Walls and ceilings in good condition					
9	Chairs & stools with impermeable covers					
10	MSDS readily available (at door)					
11	Sink is in good conditions					
B	**SIGNAGE**					
1	Emergency information sign is posted on the main entrance door to the laboratory					
2	Danger/Warning/Caution signs are in place.					
3	Other Signages:					
4	Authorize Access					
5	No Food and Drinks					
6	Type of Chemicals					
7	First Aid					
8	E xperiments in Progress					
9	Exit are clearly marked and free from obstruction					
10	All fire doors are self-closing and kept close					
11	Emergency contact numbers are clearly visible					
12	Emergency evacuation routes are clearly posted					
13	Emergency exit light are working and clear of obstruction					
14	Biohazard signage posted at lab entrance when infectious agents are present (signage lists agents and PI name/phone)					
15	Posted biohazard signage includes biosafety level, required immunizations, required PPE, and required lab exit procedures					
C	**GWLP & SOP**					
	STANDARD MICROBIOLOGICAL PRACTICES					
1	Lab access limited/restricted when experiments or work with cultures/specimens are in progress					
2	Lab personnel wash hands after handling viable materials, removing gloves, or leaving lab					
3	Handwash station					
4	Sanitizer/ Disinfectant available					
5	Disposable towels available					
6	Lab hand washing sink has hands-free, foot, knee, or automatic controls					
7	Lab sink is located near exit door					
8	No eating, drinking, smoking, handling contact lenses, applying cosmetics, or storing human food in lab					
9	Contact lens users wear safety glasses, goggles or face shields					
10	Food stored outside lab in designated cabinets/refrigerators					
11	Mechanical pipetting devices are used (*i.e.,* no mouth pipetting)					
12	Sharps handling policies/practices in place					
13	Procedures minimize splashes/aerosols					
14	Work surfaces are decontaminated at least daily and/or at completion of work					
15	Work surfaces are decontaminated after any spill/splash of viable material					
16	Disinfectants are labeled for agents being used					
17	Cultures/stocks/regulated wastes are decontaminated by approved method (*e.g.,* autoclaving) before disposal					
18	Materials decontaminated outside of lab are transported in durable, leak-proof, closed containers					
19	Infectious waste is decontaminated before removal for off-site disposal					
	SPECIAL PRACTICES					
20	Lab doors kept closed when experiments in progress					
21	Lab access is limited by secure locked doors					
22	Personnel at risk of acquiring infections or for whom infections may have serious consequences are denied access to lab					
23	All personnel are advised of potential hazards prior to entering/working in lab					
24	Minimum requirements to enter/work in lab are established and enforced.					
25	Lab personnel are appropriately immunized against or tested for the agents being used (e.g., HBV vaccinations, Tb skin test)					
26	Baseline and periodic serum samples are collected/stored as required					
27	Needle/syringe use is kept to absolute minimum					
28	Only needle-locking syringes or syringes w/ permanently affixed needles are used for injection/aspiration of infectious materials					
29	Disposable needles are not bent, sheared, broken, recapped, removed from disposable syringes, or otherwise manipulated prior to disposal					
30	Sharps containers are labeled, conveniently located, and puncture resistant					
31	Nondisposable sharps containers are hard-walled and leak proof					
32	Broken glassware is only handled by mechanical means					
33	Sharps containers are decontaminated (e.g., autoclaved) prior to disposal or reprocessing					

34	Cultures, tissues, specimens, or infectious wastes are kept in covered, leak-proof containers during collection, handling, processing, storage, transport or shipment.					
35	Lab equipment decontaminated on routine basis w/ effective disinfectant					
36	Spills/accidents are immediately reported to the lab director					
37	All open work with infectious materials is performed in a BSC or equivalent					
38	Plastic-backed absorbent paper is used to line BSC work surfaces					
39	Spills of infectious materials are decontaminated by professional staff or personnel trained/equipped to handle concentrated infectious material.					
40	Spill cleanup procedures are developed and posted.					
41	All potentially contaminated lab materials (*e.g.,* waste, gloves, lab coats, *etc* .) are decontaminated before disposal or reuse.					
42	Personnel enter/exit lab only through clothing change & shower rooms					
43	Personnel remove ALL street clothes in outer clothing change room and don lab clothing before entering lab					
44	Personnel exiting the lab remove ALL lab clothing in inner clothing change room and take a decontaminating shower					
45	Soiled/used lab clothing is autoclaved before laundering					
46	All material is autoclaved or decontaminated before it is removed from the lab					
47	Viable/intact biological materials removed from the Class III BSC or BSL-4 lab are packaged in a sealed non-breakable primary container inside a sealed non-breakable secondary container and removed from lab via disinfectant dunk tank, fumigation chamber, or air lock.					
D	**SAFETY EQUIPMENT (PRIMARY BARRIER)**					
	Personal Protective Equipment					
1	All personal protective equipments are inspected and maintained regularly					
2	Protective gloves are available and matched to hazards involved.					
3	Eye protection is available and in use in all laboratory (safety glass, goggles)					
4	Lab coats are available and in use					
5	Respirations are available and in use where required					
6	Face shield available					
7	Gloves are worn if skin on hands is broken or has rash					
8	Gloves are worn if hands are at risk of contacting infectious materials, infected					
9	Gloves are not worn outside lab or when touching "clean' surfaces (*e.g.,* telephones,					
10	Gloves are disposed of when overtly contaminated, work w/infectious materials is					
11	Disposable gloves are not reused.					
12	Safety glasses are worn when performing procedures that pose a splash risk					
13	Goggles or face shield used when performing procedures that pose a splash risk					
14	Respirators and face protection are used when in rooms containing infected animals.					
	Fume Hoods & Biosafety Cabinets					
15	Face velocity has been checked every month (confirm date of last inspection)					
16	Air Flow are not blocked.					
17	Sash(es) are in place and functional.					
18	Fluorescent lights and UV lights are functioning.					
19	Containers with volatile chemicals are capped.					
20	Fume hoods and biosafety cabinets are not overly cluttered.					
21	Biosafety cabinets are calibrated annually by an certified body					
22	Class II BSC or equivalent are used for procedures that have potential to create aerosols or splashes					
23	Class II or III BSC are used for all manipulations of infectious materials, necropsies of infected animals, harvesting tissue/fluids from infected animals/embryonated eggs,					
24	All procedures are conducted in Class III BSC or Class II BSC used in conjunction w/ 1-piece positive pressure suits w/ ventilated life support system.					
25	BSC not located near doors or windows that can be opened					
26	BSC not located near air supply grills or high lab traffic areas					
27	Class II BSC (Types B1, B2, & B3) are connected to building exhaust in a manner that prevents interference w/ either the BSC's or the lab's air balance (*e.g.,* air gap)					
28	Class III BSC are connected to building exhaust in a manner that prevents positive pressurization of the BSC.					
E	**LABORATORY FACILITIES (SECONDARY BARRIERS)**					
1	Lab has adequate lighting					
2	Labs have doors for access control					
3	Labs where "select agents" are used or stored have lockable doorsc					
4	Lab designed to be easily cleaned (*e.g.,* no carpets/rugs, spaces between					
5	Walls, floors, ceilings can be easily cleaned/decontaminated (*e.g.,* seamless, free of					
6	Bench tops are impervious to water and resistant to heat, organic solvents, acids,					
7	Lab furniture/equipment is suitable for intended use/loads.					
8	Lab windows that open to the outside are fitted w/ fly screens.					
9	Lab windows are closed and sealed.					
10	Eyewash station is readily available inside lab					
11	Method for decontaminating lab waste is available in building (*i.e.,* autoclave,					
12	Method for decontaminating equipment is available.					
13	Waste transported outside of lab is in sealed containers and not transported in					
14	Equipment that may produce aerosols (e.g., continuous flow centrifuges) are contained in devices that exhaust air through HEPA filters before air is discharged into lab and HEPA systems are tested and certified at least annually.					
15	Facility has personnel showers (depends on specific agent recommendations, risk					
16	Facility exhaust air is HEPA filtered (depends on specific agent recommendations, risk					
F	**WASTE HANDLING**					
1	Is the container suitable for the waste					
2	Is the container store in designated area of the laboratory / waste store					
3	Waste Handling: Hazardous, Non-Hazardous & Biological					
4	Waste streams are separated as necessary: ex, Solid vs liquid, hazard, non-hazardous,					
5	Waste containers are appropriately labeled before placing in waste room.					
6	Containers of hazardous waste are labeled properly					
7	Biological waste is appropriately marked with a biohazard symbol.					
8	Waste material is not allowed to accumulate on the floors, in corners or under					
9	Are biohazard containers properly used when needed (i.e. autoclave bags, sharps					

10	Are biohazardous waste autoclaved before being sent to the designated area					
G	**ADMINISTRATIVE CONTROL**					
	Resources					
1	Is there any organization chart for the biosafety maintanence in the lab, eg: IBC, BSO, lab manager					
2	Is the biosafety proceduresincorporated into the lab SOPs or adopted/prepared in the lab-specific Biosafety Manual					
	Training					
1	Training programme for lab Staff					
2	Lab personnel have read and follow biosafety procedures/practices					
	Facility					
1	Lab work separated from office work					
	Documentation and Record					
1	Is Risk Assesment Report available					
2	Is Audit/ Inspection Report available					
3	Is Training Record available					
4	Is Policies and procedures available					
5	Lab Director has adopted/prepared a lab-specific Biosafety Manual and incorporated biosafety procedures into lab SOPs					
6	Lab personnel are trained on the potential hazards, precautions to prevent exposures, & exposure evaluation procedures					
7	Lab personnel receive annual refresher training and/or additional training as necessary					
8	Written policy/procedure on who can enter lab					
9	Lab personnel are periodically tested for agent being worked with and/or periodic serum specimens are banked					
10	Lab personnel have demonstrated proficiency for all procedures they will perform before working with BSL-3 agents					
11	Logbook is maintained to document the date/time of each person who enters/exits the lab.					
12	Accidental exposures are documented (i.e., medical evaluations, surveillance, treatment)					
13	Lab has a written emergency/accident response plan					
14	Lab has plan for reporting accidents, exposures, employee absenteeism					
15	Lab has plan for medical surveillance of potential lab-associated illnesses					