

**THE UNIVERSITY OF HONG KONG CENTRE FOR COMPARATIVE MEDICINE RESEARCH (CCMR)
DISEASE SURVEILLANCE AND DIAGNOSTIC LABORATORY**

Animal Health Screening and Environmental / Equipment / Genetic / IgG Monitoring Schedule for 2022

Species/Strain	Room	Animal Health Screening		Genetic & IgG level Monitoring		Frequency for BP / PBMPs / Interceptor / SS / PCR / Genetic / IgG level Monitoring											
		Total No. of sentinels for PBMPs, SS & PCR / Year [Note 3]	Lung samples for Pneumocystis spp.	Total No. of animals for Genetic / Year [Note 4]	Total No. of animals for IgG / Year [Note 5]	(i) BP: Quarterly or biannual for rabbits, (ii) PBMPs: Biannual for all species (except rabbits) [Note 3(i)], (iii) PBMPs (Interceptor): Quarterly for Rm.205, (iv) SS: Triannual for all species [Note 3(ii)], (v) SS: Triannual for all species [Note 3(iii)], (vi) PCR: Biennial for all species (except rabbits) [Note 4(ii)], (vii) Genetic: Yearly for inbred mice [Note 4], (viii) IgG : Yearly for SCID mice only [Note 5]											
						Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
				Inbred strain	Immuno-deficient strain			SS / PCR			SS / PCR	Genetic+IgG		SS / PCR			SS / PCR
1. Animal Health Screening and Genetic / IgG Monitoring																	
1.1 Specific Pathogen Free Breeding Area																	
Rat /CDSD/IGS (Sprague Dawley)	220	36	0	0	0												PBMPs
Rat/CDSD/IGS (Sprague Dawley)	222	36	0	0	0	PBMPs						PBMPs		PBMPs			
Rat/CDSD/IGS (Sprague Dawley)	232	36	0	0	0												PBMPs
Mouse/New SCID (Genetic monitoring yearly) Mar, Jun, Sep, Dec for Interceptor screening	204	0	0	15	30			PBMPs (Interceptor)						PBMPs (Interceptor)			PBMPs (Interceptor)
Mouse/New Nude (Genetic monitoring yearly) Mar, Jun, Sep, Dec for Interceptor screening				20	30												
Mouse/New ICR (b. Mar, Jun, Sep, Dec for Interceptor screening)	205	0	0	0	0			PBMPs (Interceptor)						PBMPs (Interceptor)			PBMPs (Interceptor)
Mouse/CAnN.Cg-Foxa1nu/crl (Genetic monitoring in 2021)	206	36	4	0	30				PBMPs							PBMPs	
Mouse/C57BL/6N (Stock) (Genetic monitoring in 2021)			2	0	0												
Mouse/CBA/Ca (Genetic monitoring in 2022)	207	36		2	10	0			PBMPs				Genetic	PBMPs			
Mouse/C57BL/6J (Genetic monitoring in 2022)	208	36	4	15	0			PBMPs					PBMPs + Genetic				
Mouse/C57BL/6N (Genetic monitoring in 2021)	209	36	4	0	0					PBMPs						PBMPs	
Mouse/BALB/cAnN-nu (Nude) (Genetic monitoring in 2021)	210	36	4	0	0								PBMPs	Genetic			PBMPs
Mouse/BALB/cAnN-nu (Nude) (Genetic monitoring in 2021)	212	36	4	0	0					PBMPs							
Mouse/CB-17/Inter-scld (SCID) (Genetic monitoring yearly)	211	36	4	15	30	PBMPs								Genetic		PBMPs	
Mouse/BALB/c (Genetic monitoring in 2021)	214	36	4	0	0				PBMPs					PBMPs	Genetic+IgG		
Mouse/ICR (CD-1)	215	36	4	0	0			PBMPs						PBMPs			
Rabbit/NZW (New Zealand White)	233	Stool, Ear, Nasal & Blood Samples		0	0			BP					BP				BP
1.2 Minimal Disease Experimental Holding Area																	
Species/Strain	Room	Animal Health Screening		Genetic & IgG level Monitoring		Frequency for PBMPs / Interceptor / SS / PCR / MHV / Pinworm / Genetic / IgG level Monitoring											
		Total No. of sentinels for PBMPs, SS & PCR, MHV, Pinworm / Year [Note 3]	Lung samples for Pneumocystis spp.	Total No. of animals for Genetic / Year [Note 4]	Total No. of animals for IgG / Year [Note 5]	(i) PBMPs: Biannual for all species [Note 3(i)], (ii) PBMPs (Interceptor): Quarterly for Rm.119, (iii) SS: Triannual for all species [Note 3(ii)], (iv) PCR: Biennial for all species [Note 3(iii)], (v) MHV: Monthly for mice only [Note 3(iii)], (vi) Pinworm: Monthly for mice & rats [Note 4(iii)], (vii) Genetic: Yearly for inbred mice (NOD SCID) only [Note 4], (viii) IgG: Yearly for NOD SCID mice only [Note 5]											
						Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
				Inbred strain	Immuno-deficient strain	MHV / Pinworm /	MHV / Pinworm /	MHV / Pinworm /	MHV / Pinworm /	MHV / Pinworm /	MHV / Pinworm /	MHV / Pinworm /	MHV / Pinworm /	MHV / Pinworm /	MHV / Pinworm /	MHV / Pinworm /	MHV / Pinworm /
						SS / PCR	SS / PCR	SS / PCR	SS / PCR	SS / PCR	SS / PCR	Genetic+IgG	Genetic+IgG	SS / PCR	SS / PCR	SS / PCR	SS / PCR
1.3 Conventional Experimental Holding Area																	
		Total No. of sentinels for SS / Year [Note 3]		/	/												
Hamster/AURA (Syrian)	E318	36	0	0	0				PBMPs								PBMPs
Mouse/Sentinel (IVC)	E216	5		0	0												
Mouse/Sentinel (IVC)	E217	5		0	0												
Mouse/Sentinel	ELG113	5		0	0												
Rat/Sentinel (Multi-user)	AR1	4		0	0												
Rat/Sentinel (Multi-user)	AR3	4		0	0												
Mouse/Sentinel (Multi-user)	AR5 Zone A	20		0	0												
Mouse/Sentinel (Multi-user)	AR5 Zone B	20		0	0												
Mouse/Sentinel (Multi-user)	AR5 Zone C	20		0	0												
Mouse/Sentinel (Multi-user)	AR5 Zone D	20		0	0												
Mouse/Sentinel (Multi-user)																	
Mouse/Sentinel (Multi-user)	8820	5		0	0												
Mouse/Sentinel (Multi-user)	8821	5		0	0												
Mouse/Sentinel (Multi-user)	8822	5		0	0												
Rat/Sentinel (Multi-user)	8818	4		0	0												
1.4 Departmental Satellite Animal Facilities																	
		Total No. of sentinels for SS / Year [Note 3]		/	/												
Mouse/Sentinel (Microbiology, QMH, Block T)	T22-004	3		0	0												
Mouse/Sentinel (Microbiology, QMH, Block T)	T22-005	3		0	0												
Mouse/Sentinel (Microbiology, QMH, Block T)	T22-009	3		0	0												
Mouse/Sentinel (Ophthalmology, FMB)	606	3		0	0												
Mouse/Sentinel (Paediatrics & Adolescent Medicine, FMB)	733	3		0	0												
Mouse/Sentinel (Surgery, FMB)	L10-16	3		0	0												
Mouse/Sentinel (Surgery, FMB)	L10-18	3		0	0												
Mouse/Sentinel (Surgery, FMB)	L10-25	3		0	0												
Mouse/Sentinel (Surgery, FMB)	L10-26	3		0	0												
Rat/Sentinel (Surgery, FMB)	L10-27	3		0	0												
1.5 Blastocyst / Sperm / Caesarean-section / Importation : Re-derived animals																	
		EG17 / ELG203															
Total number of Animals		1343 (Mice) 163 (Rats) 36 (Hamsters)		95 (Mice)	180 (Mice)	/	/	/	/	/	/	/	/	/	/	/	/
Grand Total number of Animals:		1817 (Mice: 1618, Rats: 163, Hamsters: 36)															
2. Environmental Monitoring [Note: 1]		/	/	/	/	Sanitation											
3. Equipment Monitoring [Note: 2]		/	/	/	/	EO / DT	CR/DW/V	Air	/	Twg / Twg	/	/	EO / DT	CR/DW/V	Air	/	/

Symbol:

C/B/DW/V = Bacterial monitoring of used Cage-tops, Drinking Bottles & Drinking Water inside bottles in SPFBA & MDA (Once Yearly / Room) by Disease Surveillance and Diagnostic Laboratory (DSD Lab), CCMR:-

- a) C = Cage-tops have been used for 8 weeks & 2 weeks in SPFBA & MDA respectively
- b) B = Drinking bottles have been used for 4 weeks except weekly for immuno-deficient mice
- c) DW = Drinking water inside bottle has not been replaced for one week in mouse & rat colonies only
- d) V = Van of CCMR disinfection monitoring, 6 Samples / Twice Yearly

Air = Bacteriological & fungal monitoring of supply air in animal rooms & corridor of 10A Building, Dexter H.C. Man Building, FMB Building & Kadoorie Building by CCMR (Twice Yearly)

Sanitation = Sanitation monitoring (Yearly / Animal Room / Location Monitoring in Animal Area by DSD Lab)

EQ / DT = Equipment & Dunk Tank Monitoring Twice Yearly by DSD Lab

- (i) 6 Samples / Monitoring for Bottle Washer, Tunnel Washer & Cabinet Washer
- (ii) ~14 Samples / Monitoring for Dunk Tank

Genetic = Genetic monitoring by Envigo RMS, UK / Charles River Laboratories, USA (Once Yearly)

IgG = IgG antibody level (functional test) monitoring by Envigo RMS, UK / Charles River Laboratories, USA (Once Yearly)

BP = Bacteriological & Parasitological Screening for rabbit colonies (Quarterly or Biannual / Animal Room) by DSD Lab

3 or 6 Hair samples, 3 or 6 Faecal samples, 3 or 6 Ear swabs & 3 or 6 Nasal swabs/Monitoring

PBMPS = Postmortem, Bacteriological, Mycological & Parasitological Screening for rat, mouse & hamster colonies by DSD Lab

PBMPS = PRIA screening by Charles River Laboratories, USA (March, June, September & December)

Twq = Tap water quality monitoring (pH value, Colour, Turbidity, Conductivity, Iron, Lead, Cadmium, Chromium, Nickel, *Escherichia coli*, *Total Coliforms* & Heterotrophic plate count) in May every year by an out-sourced laboratory via the Estates Office

Twp = Tap water Parasitological Monitoring in May every year by AFCD

SS / PCR = Serological screening / Polymerase Chain Reaction test by Envigo RMS, UK / Charles River Laboratories, USA

Note :

1. Tap water:- Total 22 samples (post-UV /faucet type filter) in 10A Building, Dexter H.C. Man Building, FMB Building & Kadoorie Building [10A Bldg x 3, SPFBA x 2, MDA x 2, CA-DMB x 4, CA-FMB x 4 & CA-LA x 2, CA-KA x 2] & 3 control samples (untreated water) are tested every month by DSD Lab for E.coli, total coliform, heterotrophic plate count and parasites.
2. Autoclave:- 1 biological indicator (*Geobacillus stearothermophilus*) / autoclave / week from CA-KA, MDA & DSD Lab, processed by DSD Lab
3 biological indicators (*Geobacillus stearothermophilus*) / autoclave / week from Service Area, processed by SPFBA.
3. Number of Animals for
 - (i) Postmortem, Bacteriological, Mycological & Parasitological Screening (PBMPS) by DSD Lab, 4 Sentinel animals / animal room / twice yearly screening
(Remark : To cater for unexpected mortality / morbidity, the actual quantity of sentinel animals required per animal room is as follows:
6 Sentinel animals / Screening, [i.e.12 Sentinel animals / year])
 - (ii-1) Routine Serological Screening (SS) / PCR by Envigo RMS, UK / Charles River Laboratories, USA, (ii-2) MHV & Pinworm Screening by DSD Lab

a) Routine Serological Screening / MHV / Pinworm Screening in Animal Areas:-

Area	Animal Room	SS	MHV	Pin-worm	Frequency	No of Animals / Animal Room / Screening	Total No of Animals Reserved / Animal Room / Year			Remark
							Mouse	Rat	Hamster	
SPFBA	All Mouse Rms	✓	✓	/	3-Monthly	3	24	/	/	(1). To cater for unexpected mortality / morbidity in animal rooms, additional animals per room per year are required for SPFBA: 12 animals, MDA: 4 animals, CA-FMB (Rm AR5 Zone A, B, C, D): 12 animals, CA-DMB (Rm E318): 12 animals
	All Rat Rms	✓	/	/	3-Monthly	3	/	24	/	
	All Mouse Rms	✓	✓	/	3-Monthly	3	16	/	/	
MDA	Rat Rm. 101	/	✓	✓	Monthly	2	16	/	/	(2). 3-monthly serological screening:- a) Selective-profile to be performed in March, June & December in animal rooms. b) Full-profile to be performed in September in animal rooms.
		✓	/	/	3-Monthly	3	/	12	/	
		/	/	✓	Monthly	2	/	16	/	
CA-FMB	Mouse Rms:- AR5 Zone A, B, C, D	✓	✓	/	3-Monthly	2	20	/	/	(1). To cater for unexpected mortality / morbidity / confirmatory additional rats per room per year are required for Full-profile to be performed in animal rooms.
	All Rat Rms	✓	/	/	Yearly	2	/	4	/	
CA-DMB	Hamster Rm:- E318	✓	/	/	3-Monthly	3	/	/	24	
	Mouse Rms:- E216 & E217	✓	✓	/	Yearly	2	5	/	/	
CA-Laboratory	All Mouse Rms	✓	✓	/	Yearly	2	5	/	/	
CA-KA	Mouse Rms:- 8S20, 8S21 & 8S22	✓	✓	/	Yearly	2	5	/	/	
	Rat Rms:- 8S18	✓	/	/	Yearly	2	/	4	/	
CA - Department Satellite Animal facilities	Mouse Rms:- T22-004, T22-005, T22-009, 606, 733, L10-16, L10-18, L10-25, L10-26,	✓	✓	/	Yearly	2	3	/	/	
	Rat Rms:- L10-27	✓	/	/	Yearly	2	/	3	/	

Note: 6 serum samples per 3-Monthly serological screening of rabbit colony in SPFBA.

b) Other PCR tests

- *Helicobacter spp.* : Biennial for mouse/rat room; one pooled caecal sample from sentinel animals in SPFBA & one pooled fecal pellets from users' animals in MDA, No PCR test for CA.
- *Streptobacillus moniliformis* : Biennial for mouse/rat/hamster room; one pooled caecal sample from sentinel animals in SPFBA & MDA, No PCR test for CA.
- *Pneumocystis spp.* : Biennial for mouse room; two pooled lung samples/room from 4 mice in SPFBA and ICR, NOD SCID & NSG mice 3-monthly only in MDA. No PCR test for CA

4. Genetic Monitoring of inbred animals for genetic contamination in SPFBA & MDA (NOD SCID & NSG mice only) by Envigo RMS, UK / Charles River Laboratories, USA:-

- Representative ear punch samples will be taken from the colony & pooled for 32 or 48 Single Nucleotide Polymorphism (SNP) testing.

5. Functional test (IgG level monitoring) for SCID, NODSCID and NSG mice performed by Envigo RMS, UK / Charles River Laboratories, USA

Species / Strain	Frequency
Mouse - C.B-17/lcr-scid (SCID)	Yearly
Mouse - NOD.CB17-Prkde ^{scid} /J (NOD SCID)	Yearly
Mouse - NOD.Cg-Prkdc ^{scid} -Il2rg ^{tm1Wjl} /SzJ (NSG)	Yearly