# 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 Heal	th Screening	Genetic & IgG le	vel Monitoring			Fre	quency for I	BP / PBMPS	/ Interceptor	/SS/PCR/Ge	netic / IgG le	vel Monitori	ng		
		Total No. of sentinels for	Lung samples for	Total No. of animals for	Total No. of	Frequency for BP / PBMPS / Interceptor / SS / PCR / Genetic / IgG level Monitoring  (i) BP: Quarterly or biannual for rabbits, (ii) PBMPS: Biannual for all species (except rabbits) [Note 3(ii)],  (iii) PBMPS (Interceptor): Quarterly for Rm.205, (iv) SS: Triannual for all species [Note 3(iii)],											
		PBMPS,	Pneumocystis	Genetic / Year	animals for IgG / Year	(v	) SS: Triann	ıal for all sp	ecies [Note 3	(ii)], (vi) P	CR: Biennia	for all species (	except rabbi	s) [Note 4(ii)	I.		
		SS & PCR / Year	spp.	[Note 4] Inbred strain	[Note 5]	Jan (1	vii) Genetic: Feb	Yearly for in Mar	hbred mice [	Note 4], (vi	ii) IgG : Yea June	rly for SCID mic July	ce only [Note Aug	5] Sept	Oct	Nov	Dec
		[Note 3]			deficient strain	,,,,,		SS / PCR	- 4		SS/PCR	Genetic+IgG		SS / PCR		- 1.01	SS/PCR
1. Animal Health Screening and Genetic / IgG Monito	oring																
1.1 Specific Pathogen Free Breeding Area Rat /CD(SD)IGS (Sprague Dawley)	220	36	0	0	0		1	I			PBMPS				I		PBMPS
Rat/CD(SD)IGS (Sprague Dawley)	222	36	0	0	0	PBMPS						PBMPS					
Rat/CD(SD)IGS (Sprague Dawley)  Mouse/New SCID (Genetic monitoring yearly)	232 204	36 0	0	0 15	30			PBMPS		PBMPS	PBMPS			PBMPS		PBMPS	PBMPS
Mar, Jun, Sep, Dec for Interceptor screening Mouse/New Nude (Genetic monitoring yearly)				20	30			(Interceptor)			(Interceptor)			(Interceptor)			(Interceptor)
Mar, Jun, Sep, Dec for Interceptor screening																	
Mouse/New ICR (i). Mar, Jun, Sep, Dec for Interceptor screening	205	0	0	0	0			PBMPS (Interceptor)			PBMPS (Interceptor)			PBMPS (Interceptor)			PBMPS (Interceptor)
Mouse/CAnN.Cg-Foxan1nu/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)	200											PBMPS +					
Mouse/C57BL/6N (Genetic monitoring in 2021)	208	36 36	4	15	0	PBMPS				PBMPS		Genetic				PBMPS	
										PBMPS		Genetic				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			Genetic			PBMPS		
Mouse/C.B-17/Icr-scid (SCID) (Genetic monitoring	211	36	4	15	30	PBMPS						PBMPS					
yearly) Mouse/BALB/c (Genetic monitoring in 2021)	214	36	4	0	0			PBMPS				Genetic+IgG Genetic		PBMPS			
							DD3 CDC						ppyrpc				
Mouse/ICR (CD-1) Rabbit/NZW (New Zealand White)	215 233	36 Stool, Ear, Nasal	4 & Blood Samples	0	0	BP	PBMPS		BP			BP	PBMPS		BP		
Species/Strain	Room	Animal Usal	th Screening	Genetic & IgG le	vol Monitorina			Fraguenes	for DDMD	2 / Intercent	or / SS / DCD	/ MHV / Pinwoi	rm / Canatia	/ InC lovel M	onitoring		
opecies/orrain	Koom	Total No. of		Total No. of	Total No. of			nnual for al	Il species [No	ote 3(i)], (ii)	PBMPS (Int	erceptor): Quar	terly for Rm		omornig		
1	1	sentinels for PBMPS,	for Pneumocystis	animals for Genetic / Year	animals for IgG / Year	(ii	ii) SS: Trianı	ual for all sp	pecies [Note	3(ii)], (iv) I	CR: Biennia	l for all species / onthly for mice &	Note 3(ii)],				
	1	SS & PCR,	spp.	[Note 4]	[Note 5]	(v	ii) Genetic: !	early for in	bred mice (N	NOD SCID)	only [Note 4]	, (viii) IgG: Yea	rly for NOD	SCID mice o			,
	1	MHV, Pinworm /		Inbred strain	Immuno-	Jan MHV /	Feb MHV/	Mar MHV /	Apr MHV/	May MHV /	June MHV /	July MHV /	Aug MHV /	Sept MHV /	Oct MHV/	Nov MHV /	Dec MHV/
		Year			deficient strain	Pinworm/	Pinworm /	Pinworm / SS / PCR	Pinworm /	Pinworm /	Pinworm / SS / PCR	Pinworm /	Pinworm /	Pinworm / SS / PCR	Pinworm /	Pinworm /	Pinworm / SS / PCR
1.2 Minimal Disease Experimental Holding Area		[Note 3]	<u> </u>				<u> </u>	SO / I CK			SO/TER	Genetic+IgG		SO/TER			SOTICE
Rat/Sentinel [Surgery, Ophthalmology, School of Biomedical Sciences, CD(SD)IGS (Sprague Dawley)]	101	40	0	0	0				PBMPS						PBMPS		
Mouse/Sentinel (Multi-user)	102	44	0	0	0		PBMPS (Old 109)						PBMPS				
Mouse/Sentinel (School of Biomedical Sciences) (Prof. ZJ	103	44	0	0	0		(Old 109)				PBMPS		(Old 109)				PBMPS
ZHOU) Mouse/Sentinel (Multi-user)	104	44	0	0	0					PBMPS	(Old 108)					PBMPS	(Old 108)
Mouse/Sentinel (Multi-user) (Medicine and O&G)	105	44	0	0	0				PBMPS	15.110					PBMPS	1213	
Mouse/Sentinel (School of Biomedical Sciences)  Mouse/Sentinel (School of Biomedical Sciences) (Dr. Bo	106 107	44 44	0	0	0	PBMPS		PBMPS				PBMPS		PBMPS			
GAO & Dr. YQ SONG)  Mouse/Sentinel [TCFs clean stud bank + Multi Users	108	44			Ů	PBMPS						PBMPS					
(ELG114 & 113 rederived colonies)]						(2022)						TBMIS					
Mouse/Sentinel (Multi-user)	109	44	0	0	0					PBMPS (Old 103)						PBMPS (Old 103)	
Mouse/Sentinel (Multi-user)  Mouse/Sentinel (School of Biomedical Sciences)	110 111	44 44	0	0	0				PBMPS		PBMPS				PBMPS		PBMPS
Mouse/Sentinel (Multi-user)	112	44	0	0	0				10.0113	PBMPS					TBMIS	PBMPS	
Mouse/Sentinel (MNV unknown colonies)	118	44	0	0	0	PBMPS						PBMPS					
Mouse/Sentinel (Multi-user)	124	44	0	0	0						PBMPS						PBMPS
Mouse/Sentinel (Multi-Users & CCMR-TCF Reagent mice)	127	44	0	0	0					PBMPS						PBMPS	
Mouse / Sentinel ( IVC, NOD.Cg-Prkdc <scid></scid>	G10	44	16	10	30		PBMPS					Genetic + IgG	PBMPS				
Il2rg <tm1wjl>/SzJ) [NSG] imported on 23/2/2018, Central breeding colonies (Genetic monitoring yearly)</tm1wjl>																	
Mouse/Sentinel (IVC, NOD.CB17-Prkdc *cid/J ) [NODSCID] new colony imported on 01/11/2018, Central	G10	44	16	10	30			PBMPS				Genetic + IgG		PBMPS			
breeding colonies (Genetic monitoring yearly)																	
Mouse/Sentinel for MDA {Nude hairy (nu/+)} start from Mar 2019, Central breeding colonies	G10	44	16	0	0			PBMPS						PBMPS			
Mouse/Sentinel (IVC, Multi-Users, MNV free colonies)	G10	44	0	0	0			PBMPS						PBMPS			
industrial (i.e., main outs, mill nee coolies)	010							12						12			
Mouse/K18-hACE2 (Microbiology, SPH, SBMS - K18- hACE2 related colonies) (Multi-user).	G10	6	0	0	0			PBMPS (Interceptor)			PBMPS (Interceptor)			PBMPS (Interceptor)			PBMPS (Interceptor)
(i). Mar, Jun, Sep, Dec for Interceptor screening (ii). Sept sentinel: Serology + PBMPS	1					1					prot)			,pior)			, , , , , , , , , , , , , , , , , , , ,
(ii). Sent sentinel: Serology + PBMPS  1.3 Conventional Experimental Holding Area	1	Total No. of se		/	/		i							i			
	W1440	Year [					1	DD3.4	1	1	1	ı	1	DESCRI	1	1	
Hamster/AURA (Syrian)  Mouse/Sentinel (IVC)	E318 E216	36	0	0	0			PBMPS						PBMPS			
Mouse/Sentinel (IVC) Mouse/Sentinel (IVC)	E216 E217			0	0	1											
Mouse/Sentinel	ELG113			0	0	1											
Rat/Sentinel (Multi-user)	AR1			0	0	i) Quarterly	in Mar, June	, Sept & Dec	c for Room	AR5 Zone A	, B, C, D, An	nually for all oth	er rooms				
Rat/Sentinel (Multi-user)  Mouse/Sentinel (Multi-user)	AR3 AR5 Zone A	2		0	0	1											
Mouse/Sentinel (Multi-user)	AR5 Zone B	2	0	0	0	1											
Mouse/Sentinel (Multi-user)  Mouse/Sentinel (Multi-user)	AR5 Zone C AR5 Zone D	2		0	0	ł											
Mouse/Sentinel (Multi-user)	8S20	2		0	0	1											
Mouse/Sentinel (Multi-user)	8S21		i	0	0	1											
Mouse/Sentinel (Multi-user) Rat/Sentinel (Multi-user)	8S22 8S18			0	0	ł											
1.4 Departmental Satellite Animal Facilities	0.010	Total No. of se	ntinels for SS /	/	/	l											
Mouse/Sentinel (Microbiology, QMH, Block T)	T22-004	Year [		0	0	i) No routin	e PBMPS r	formed or	animals hold	in HKII Da	partmental S	atellite Animal I	acilities				
Mouse/Sentinel (Microbiology, QMH, Block T)	T22-005	3	3	0	0	ii) Annually				De	,atai 3	reamal f					
Mouse/Sentinel (Microbiology, QMH, Block T)  Mouse/Sentinel (Ophthalmology, FMB)	T22-009 606	3		0	0	-											
Mouse/Sentinel	733	2		0	0	1											
(Paediatrics & Adolescent Medicine, FMB)  Mouse/Sentinel (Surgery, FMB)	L10-16	3		0	0	1											
Mouse/Sentinel (Surgery, FMB)  Mouse/Sentinel (Surgery, FMB)	L10-18 L10-25	3		0	0	1											
Mouse/Sentinel (Surgery, FMB)	L10-26	3	3	0	0	1											
Rat/Sentinel (Surgery, FMB)	L10-27	3	3	0	0	<u> </u>											
1.5 Blastocyst / Sperm / Caesarean-section / Importation: Re-derived animals	EG17 / ELG203						_		_		_	·		_			_
Total number of Animals		1343	(Mice)	95 (Mice)	180 (Mice)	/	/	/	1	/	/	/	/	1	/	/	1
		163 36	(Rats) (Hamsters)														
Grand Total number of Animals:		1817		8, Rats: 163, Ha	msters: 36)												
2. Environmental Monitoring [Note: 1]			/	1	/	/	C/B/DW/V	Air	/	Twq / Twp	Sai	nitation /	C/B/DW/V	Air	1	1	/
3. Equipment Monitoring [Note: 2]			/	1	/	EQ/DT	1	1	/	1	/	EQ/DT	/	1	/	/	/
													LAB-B1-2.1				

### Symbol:

- CB/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

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- t. 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.
- $2.\ Autoclave: \ 1\ biological\ indicator\ (\textit{Geobacillus stearothermophilus}\ )\ /\ autoclave\ /\ week\ from\ CA-KA,\ MDA\ \&\ DSD\ Lab,\ processed\ by\ DSD\ Lab\ (processed\ b)\ (processed\ by\ DSD\ Lab\ (processed\ b)\ (pr$
- 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 sentinels 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-	Frequency	No of Animals /	Total No	f Animals	Reserved	Remark			
				worm		Animal Room /	/ Animal Room / Year		/ Year				
						Screening	Mouse	Rat	Hamster				
SPFBA	All Mouse Rms	/	1	/	3-Monthly	3	24	/	/	(1). To cater for unexpected mortality / morbidity in animal rooms,			
SFFBA	All Rat Rms	1	/	/	3-Monthly	3	/	24	/	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			
	All Mouse Rms	/	1	/	3-Monthly	3	16	/	/	animals, CA-DMB (Rm E318): 12 animals			
	All Wouse Kills	/	1	1	Monthly	2	16	/	/	(2). 3-monthly serological screening:-			
MDA	Rat Rm. 101	1	/	/	3-Monthly	3	/	12	/	<ul> <li>a) Selective-profile to be performed in March, June &amp; December in animal rooms.</li> </ul>			
	Rat Kill. 101	/	/	1	Monthly	2	/	16	/	b) Full-profile to be performed in September in animal rooms.			
CA-FMB	Mouse Rms:- AR5 Zone A, B, C, D	1	1	/	3-Monthly	2	20	/	/	<ol> <li>To cater for unexpected mortality / morbidity / confirmatory additional rats per room per year are required for Full-profile to be performed in</li> </ol>			
	All Rat Rms	/	/	/	Yearly	2	/	4	/	animal rooms.			
	Hamster Rm:- E318	1	/	/	3-Monthly	3	/	/	24				
CA-DMB	Mouse Rms:- E216 & E217	1	1	/	Yearly	2	5	/	/				
CA-Laboratory	All Mouse Rms	1	1	/	Yearly	2	5	/	/				
CA-KA	Mouse Rms:- 8S20, 8S21 & 8S22	1	1	/	Yearly	2	5	/	/				
	Rat Rms:- 8S18	1	/	/	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,	1	1	/	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:
  - $Representative \ ear \ punch \ samples \ will \ be \ taken \ from \ the \ colony \ \& \ pooled \ for \ 32 \ or \ 48 \ Single \ Nucleotide \ Polymorphism \ (SNP) \ testing \ pooled \ for \ SNP \ pooled \ pooled \ for \ SNP \ pooled \ p$

Species / Strain	Frequency					
Mouse - C.B-17/Icr-scid (SCID)	Yearly					
Mouse - NOD.CB17-Prkdc <sup>scid</sup> /J (NOD SCID)	Yearly					
Mouse - NOD.Cg-Prkdc <scid> Il2rg<tm1wjl>/SzJ (NSG)</tm1wjl></scid>	Yearly					