

**THE UNIVERSITY OF HONG KONG**  
**CENTRE FOR COMPARATIVE MEDICINE RESEARCH**  
**CENTRE LABORATORY**

A. Routine Animal Health Monitoring Frequency

**1. Bacteriology, mycology and parasitology (in-house)**

SPFA and MDA: twice yearly (rotating basis)

**2. Serology and PCR (outsourced laboratory)**

SPFA and MDA: Quarterly

CA-FMB, CA-Lab, CA-DMB and CA-KA: Annually (rotating basis)

**3. MHV and pinworm (MDA) (in-house)**

PCR (weekly)

Pinworm (monthly)

**4. Postmortem examination**

By case

Animal Area	Frequency per Animal Room
1. Specific Pathogen Free Area (SPFA)	Serology (Full / Selective Profile) - Quarterly In-house Bacteriological, Mycological and Parasitological Screening - twice yearly
2. Minimal Disease Experimental Holding Area	Serology (Full / Selective Profile) - Quarterly In-house Bacteriological, Mycological and Parasitological Screening - twice yearly
	Mouse Hepatitis Virus ELISA and PCR, pinworm screening by microscopic examination - Monthly
3. Conventional Experimental Holding Area (CA)	
CA-DMB (Dexter H.C. Man Building)	Serology (Full-Profile) - Annually
CA-FMB (Faculty of Medicine Building)	Serology (Full-Profile) – Annually AR6, AR7 & AR8 (Full / Selective Profiles) - Quarterly
CA-KA (Kadoorie Biological Sciences Building)	Serology (Full-Profile) - Annually
CA-Laboratory (Dexter H.C. Man Building)	Serology (Full-Profile) - Annually

## B. Routine Animal Health Monitoring - Serology panels

### **Full profile (mouse)**

1	<i>Cilia-associated respiratory bacillus</i> [CARB]
2	Ectromelia Virus [ECTRO]
3	<i>Encephalitozoon cuniculi</i> [ECUN]
4	Hantaan Virus [HANT]
5	Prospect Hill Virus [PHV]
6	Lactate Dehydrogenase Elevating Virus [LDV]
7	Lymphocytic Choriomeningitis Virus [LCMV]
8	Mouse Adenovirus { includes Mouse Adenovirus Type 1 (MAd FL) [MAV-1] & Mouse Adenovirus Type 2 (MAd K87) [MAV-2]}
9	Mouse Cytomegalovirus [MCMV]
10	Mouse Hepatitis Virus [MHV]
11	Mouse Norovirus [MNV]
12	Mouse Parvovirus rNS-1 [rNS-1]
13	Mouse Parvovirus Type 1, 2 & 5 [MPV 1,2, 5]
14	Minute Virus of Mice [MVM]
15	Mouse Thymic Virus [MTLV]
16	<i>Mycoplasma pulmonis</i> [MPUL]
17	Pneumonia Virus of Mice [PVM]
18	Polyoma Virus [POLY]
19	Mouse Pneumonitis Virus [K]
20	Reovirus Type 3 [REO]
21	Mouse Rotavirus (ROTA-A) {Epizootic Diarrhea of Infant Mice Virus} [EDIM]
22	Sendai Virus [SEND]
23	Theiler's Murine Encephalomyelitis Virus [TMEV / GDVII]
24	Tyzzer's bacillus ( <i>Clostridium piliforme</i> ) [CPIL]

### **Selective profile (mouse)**

1	Mouse Hepatitis Virus [MHV]
2	Mouse Norovirus [MNV]
3	Mouse Parvovirus rNS-1 [rNS-1]
4	Mouse Parvovirus (Type 1, 2, 5) [MPV 1, 2, 5]
5	Minute Virus of Mice [MVM]
6	Mouse Rotavirus [ROTA-A] {Epizootic Diarrhea of Infant Mice Virus} [EDIM]
7	Theiler's Murine Encephalomyelitis Virus [TMEV/GDVII]

### Full profile (rat)

1	<i>Cilia-associated respiratory bacillus</i> [CARB]
2	Encephalitozoon cuniculi [ECUN]
3	Hantaan Virus [HANT]
4	Lymphocytic Choriomeningitis Virus [LCMV]
5	Mouse Adenovirus {includes Mouse Adenovirus Type 1 (MAd FL) [MAV-1] & Mouse Adenovirus Type 2 (MAd K87) [MAV-2]}
6	<i>Mycoplasma pulmonis</i> [MPUL]
7	<i>Pneumocystis carinii</i> [PCAR] {previously referred to as Rat Respiratory Virus ("RRV")}
8	Pneumonia Virus of Mice [PVM]
9	Rat Coronavirus/Sialodacryoadenitis Virus [RCV / SDAV]
10	Parvovirus [NS-1]
11	Rat Parvovirus [RPV]
12	Kilham Rat Virus [KRV]
13	Toolan's H-1 Virus [H-1]
14	Rat Minute Virus [RMV]
15	Rat Rotavirus (ROTA-B){infectious diarrhea of infant rats} [IDIR]
16	Reovirus Type 3 [REO]
17	Sendai Virus [SEND]
18	Rat Theilovirus [RTV]
19	Tyzzler's bacillus ( <i>Clostridium piliforme</i> ) [CPIL]

### Selective profile (rat)

1	<i>Mycoplasma pulmonis</i> [MPUL]
2	Pneumonia Virus of Mice [PVM]
3	Rat Coronavirus/ Sialodacryoadenitis Virus [RCV / SDAV]
4	Parvovirus [NS-1]
5	Rat Parvovirus [RPV]
6	Kilham Rat Virus [KRV]
7	Toolan's H-1 Virus [H-1]
8	Rat Minute Virus [RMV]
9	Rat Theilovirus [RTV]
10	Tyzzler's bacillus ( <i>Clostridium piliforme</i> ) [CPIL]

### **Full profile (rabbit)**

1	<i>Cilia-associated respiratory bacillus</i> [CARB]
2	<i>Encephalitozoon cuniculi</i> [ECUN]
3	Rabbit Adenovirus [RbAV]
4	Rabbit Enteric Coronavirus [RbEC]
5	Rabbit Pox Virus (Myxomatosis Virus) [RbPV]
6	Rabbit Haemorrhagic Disease Virus [RHDV]
7	Rabbit Rotavirus [ROTA]
8	Parainfluenza Virus (Type 1) [PIV-1]
9	Parainfluenza Virus (Type 2) [PIV-2]
10	<i>Toxoplasma gondii</i> [TOXO]
11	<i>Treponema paraluis-cuniculi</i> [TREP]
12	Tyzzler's bacillus ( <i>Clostridium piliforme</i> ) [CPIL]

### **Selective profile (rabbit)**

1	<i>Encephalitozoon cuniculi</i> [ECUN]
2	Rabbit Haemorrhagic Disease Virus [RHDV]
3	Rabbit Rotavirus [ROTA]
4	Tyzzler's bacillus ( <i>Clostridium piliforme</i> ) [CPIL]

### **Full profile (guinea pig)**

1	<i>Cilia-associated respiratory bacillus</i> [CARB]
2	<i>Encephalitozoon cuniculi</i> [ECUN]
3	Guinea pig Adenovirus [GAV]
4	Guinea pig Cytomegalovirus [GCMV]
5	Lymphocytic Choriomeningitis Virus [LCMV]
6	Pneumonia Virus of Mice [PVM]
7	Reovirus Type 3 [REO]
8	Sendai Virus [SEND]
9	Parainfluenza Virus (Type 3) [PIV-3]
10	Tyzzler's bacillus ( <i>Clostridium piliforme</i> ) [CPIL]
11	<i>Chlamydomphila caviae</i>

### **Selective profile (guinea pig)**

1	Guinea pig Adenovirus [GAV]
2	Sendai Virus [SEND]
3	Parainfluenza Virus (Type 3) [PIV-3]

## Full profile (zebrafish)

1	Infectious Spleen and Kidney Necrosis Virus (ISKNV)
2	Infectious Pancreatic Necrosis Virus (IPNV)
3	<i>Aeromonas hydrophila</i>
4	<i>Edwardsiella ictaluri</i>
5	<i>Flavobacterium columnare</i>
6	<i>Mycobacterium abscessus</i>
7	<i>Mycobacterium chelonae</i>
8	<i>Mycobacterium fortuitum</i>
9	<i>Mycobacterium haemophilum</i>
10	<i>Mycobacterium marinum</i>
11	<i>Mycobacterium peregrinum</i>
12	<i>Pseudoloma neurophilia</i> (Fungi)
13	<i>Pleistophora hypnessobryconis</i> (Fungi)
14	<i>Saprolegnia brachydani</i> (Fungi)
15	<i>Ichthyophthirius multifiliis</i> (Protozoa)
16	<i>Piscinoodinium pillulare</i> (Dinoflagellate)
17	<i>Pseudocapillaria tomentosa</i> (Nematode)

## Other PCR tests

1	<i>Helicobacter</i> spp. (including <i>bilis</i> , <i>ganmani</i> , <i>hepaticus</i> , <i>mastomyrinus</i> , <i>rodentium</i> & <i>typhlonius</i> )
2	<i>Pneumocystis murina</i> / spp.
3	<i>Streptobacillus moniliformis</i>
4	Fur mites ( <i>Myobia</i> spp., <i>Myocoptes</i> , spp., <i>Radfordia</i> spp.)
5	Pinworms ( <i>Aspicularis</i> spp., <i>Syphacia</i> spp.)
6	Mouse Hepatitis Virus [MHV]
7	<i>Pneumocystis oryctolagi</i>

## **C. Postmortem and Bacteriological/Mycological/Parasitological Screening**

*(performed by Centre Laboratory)*

### **1.1 Bacteriological Screening Profile**

a) Respiratory bacteria:

Aerobic cultures of nasopharyngeal swab examined for the presence of *Bordetella bronchiseptica*; *Corynebacterium kutscheri*; *Rodentibacter pneumotropicus* (*Pasteurella pneumotropica* Jawetz) *Rodentibacter heylii* (*Pasteurella pneumotropica heyl*); *Pasteurella multocida*; *Pasteurella spp.*; *Staphylococcus aureus*; *Streptococcus spp.* ( $\beta$ - haemolytic); *Streptococcus pneumoniae* & *Streptobacillus moniliformis*

b) Enteric bacteria:

Aerobic culture of caecal content examined for the presence of *Citrobacter rodentium*; *Escherichia coli* ( $\beta$ - haemolytic); *Klebsiella oxytoca*; *Klebsiella pneumoniae*; *Pseudomonas aeruginosa* & *Salmonella spp.*

### **1.2 Mycological Screening Profile**

Direct microscopic examination & fungal culture of hair + skin scraping sample for the presence of dermatophytes i.e. *Microsporum spp.* & *Trichophyton spp.*

### **1.3 Parasitological Screening Profile**

a) Ecto-parasites:

Microscopic examination of hair + skin scraping sample for the presence of fleas, mites, lice & ticks.

b) Endo-parasites:

Visual / Direct microscopic examination & Sedimentation method of duodenum, caecal & rectal content for the presence of helminths and intestinal protozoa (*Eimeria spp*; *Giardia spp*; *Spironucleus spp*; *Trichomonas spp* & *Entamoeba spp*).