



FINAL REPORT OF LABORATORY EXAMINATION

4011 Discovery Drive, Columbia, MO 65201

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IDEXX BioResearch Case # 9366-2018

Received: 3/21/2018

Completed: 3/27/2018

Submitted By

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Specimen Description

Species: mouse
Description: Live sentinel mice
Number of Specimens/Animals: 10
Building/Facility: Discovery Ridge
Area: W113, W116

Table with 7 columns: Client ID, Investigator, Room #, Strain /Breed, Sex, Rack, Date Placed. Rows include specimens 116-A through 113-D.

Services/Tests Performed: Rederivation Necropsy Profile

Serologic evaluation for antibodies to: Clostridium piliforme, Mycoplasma pulmonis, CAR bacillus, Ectromelia, EDIM, LCMV, LDEV, MAV1, MAV2, MCMV, MHV, MNV, MPV, MVM, Polyoma, PVM, REO3, Sendai, TMEV, Encephalitozoon cuniculi

PCR evaluation for: Helicobacter bilis, Helicobacter ganmani, Helicobacter hepaticus, Helicobacter mastomyrinus, Helicobacter rodentium, Helicobacter spp., Helicobacter typhlonius, Mycoplasma pulmonis

Parasitologic evaluation for: fur mites, mesostigmatid mites, lice, Spironucleus muris, Giardia muris, large intestinal flagellates and amoeba, pinworms and tapeworms

Microbiologic evaluation for: Citrobacter rodentium, Corynebacterium kutscheri, Klebsiella oxytoca, Klebsiella pneumoniae, Pasteurella multocida, Pasteurella pneumotropica biotype Heyl, Pasteurella pneumotropica biotype

Jawetz, *Salmonella enterica*, *Streptococcus pneumoniae*

General Comments: Discovery Ridge - 2018 Q1 'A' room sentinel mice necropsies

Summary: All test results were negative. Please see the report for details.

NECROPSY

No gross lesions were detected in any of the body systems and organs examined.

SEROLOGY SUMMARY

	116-A	116-B	116-C	116-D	116-E	116-F	113-A	113-B	113-C
CAR bacillus	-	-	-	-	-	-	-	-	-
<i>Encephalitozoon cuniculi</i>	-	-	-	-	-	-	-	-	-
Ectromelia	-	-	-	-	-	-	-	-	-
EDIM	-	-	-	-	-	-	-	-	-
LCMV	-	-	-	-	-	-	-	-	-
LDEV	-	-	-	-	-	-	-	-	-
<i>Mycoplasma pulmonis</i>	-	-	-	-	-	-	-	-	-
MAV1	-	-	-	-	-	-	-	-	-
MAV2	-	-	-	-	-	-	-	-	-
MCMV	-	-	-	-	-	-	-	-	-
MHV	-	-	-	-	-	-	-	-	-
MNV	-	-	-	-	-	-	-	-	-
MPV	-	-	-	-	-	-	-	-	-
MVM	-	-	-	-	-	-	-	-	-
Polyoma	-	-	-	-	-	-	-	-	-
PVM	-	-	-	-	-	-	-	-	-
REO3	-	-	-	-	-	-	-	-	-
TMEV	-	-	-	-	-	-	-	-	-
Sendai	-	-	-	-	-	-	-	-	-
<i>Clostridium piliforme</i>	-	-	-	-	-	-	-	-	-
Mouse IgG	N	N	N	N	N	N	N	N	N

	113-D
CAR bacillus	-
<i>Encephalitozoon cuniculi</i>	-
Ectromelia	-
EDIM	-
LCMV	-
LDEV	-
<i>Mycoplasma pulmonis</i>	-
MAV1	-
MAV2	-
MCMV	-
MHV	-

	113-D
MNV	-
MPV	-
MVM	-
Polyoma	-
PVM	-
REO3	-
TMEV	-
Sendai	-
<i>Clostridium piliforme</i>	-
Mouse IgG	N

Legend: + = positive - = negative blank = test not performed EQ = equivocal HE = hemolysis precluded testing I = insufficient W = weak positive WB = Western Blot confirmatory analysis pending NS = non-specific reactivity N = normal IgG L = less than normal IgG

PCR EVALUATION

feces	116-A	116-B	116-C	116-D	116-E	116-F	113-A	113-B	113-C
<i>Helicobacter</i> spp.	-	-	-	-	-	-	-	-	-
<i>Helicobacter bilis</i>	-	-	-	-	-	-	-	-	-
<i>Helicobacter ganmani</i>	-	-	-	-	-	-	-	-	-
<i>Helicobacter hepaticus</i>	-	-	-	-	-	-	-	-	-
<i>Helicobacter mastomyrinus</i>	-	-	-	-	-	-	-	-	-
<i>Helicobacter rodentium</i>	-	-	-	-	-	-	-	-	-
<i>Helicobacter typhlonius</i>	-	-	-	-	-	-	-	-	-

feces	113-D
<i>Helicobacter</i> spp.	-
<i>Helicobacter bilis</i>	-
<i>Helicobacter ganmani</i>	-
<i>Helicobacter hepaticus</i>	-
<i>Helicobacter mastomyrinus</i>	-
<i>Helicobacter rodentium</i>	-
<i>Helicobacter typhlonius</i>	-

oral swab	116-A	116-B	116-C	116-D	116-E	116-F	113-A	113-B	113-C
<i>Mycoplasma pulmonis</i>	-	-	-	-	-	-	-	-	-

oral swab	113-D
<i>Mycoplasma pulmonis</i>	-

Legend: + = positive - = negative id:id = pooled sample range id+id+id = non-range pooled sample NT or blank = no test performed wps = weak positive

PARASITOLOGY

	116-A	116-B	116-C	116-D	116-E	116-F	113-A	113-B	113-C
parasites	-	-	-	-	-	-	-	-	-

	113-D
parasites	-

MICROBIOLOGY

Specimen/Source: cecum

Isolate	116-A	116-B	116-C	116-D	116-E	116-F	113-A	113-B	113-C
<i>Citrobacter rodentium</i>	-	-	-	-	-	-	-	-	-
<i>Klebsiella oxytoca</i>	-	-	-	-	-	-	-	-	-
<i>Klebsiella pneumoniae</i>	-	-	-	-	-	-	-	-	-
<i>Salmonella enterica</i>	-	-	-	-	-	-	-	-	-

Specimen/Source: cecum

Isolate	113-D
<i>Citrobacter rodentium</i>	-
<i>Klebsiella oxytoca</i>	-
<i>Klebsiella pneumoniae</i>	-
<i>Salmonella enterica</i>	-

Specimen/Source: nasopharynx

Isolate	116-A	116-B	116-C	116-D	116-E	116-F	113-A	113-B	113-C
<i>Corynebacterium kutscheri</i>	-	-	-	-	-	-	-	-	-
<i>Pasteurella multocida</i>	-	-	-	-	-	-	-	-	-
<i>Pasteurella pneumotropica</i> biotype Heyl	-	-	-	-	-	-	-	-	-
<i>Pasteurella pneumotropica</i> biotype Jawetz	-	-	-	-	-	-	-	-	-
<i>Streptococcus pneumoniae</i>	-	-	-	-	-	-	-	-	-

Specimen/Source: nasopharynx

Isolate	113-D
<i>Corynebacterium kutscheri</i>	-
<i>Pasteurella multocida</i>	-
<i>Pasteurella pneumotropica</i> biotype Heyl	-
<i>Pasteurella pneumotropica</i> biotype Jawetz	-
<i>Streptococcus pneumoniae</i>	-

Legend: + = agent recovered - = agent not recovered blank = test not performed n = no growth X = Preliminary

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SEROLOGY DETAILS

	Baseline	116-A	116-B	116-C	116-D	116-E	116-F	113-A	113-B	113-C
CAR bacillus										
CAR bacillus purified bacteria	MFI > 3.750	-	-	-	-	-	-	-	-	-
Encephalitozoon cuniculi										
<i>E. cuniculi</i> purified protozoa	MFI > 1.200	-	-	-	-	-	-	-	-	-
Ectromelia										
Ectromelia purified virus	MFI > 2.000	-	-	-	-	-	-	-	-	-
EDIM										
EDIM purified virus	MFI > 4.000	-	-	-	-	-	-	-	-	-
EDIM VP6 recombinant	MFI > 2.500	-	-	-	-	-	-	-	-	-
LCMV										
LCMV recombinant	MFI > 3.000	-	-	-	-	-	-	-	-	-
LDEV										
LDEV	MFI > 4.500	-	-	-	-	-	-	-	-	-
Mycoplasma pulmonis										
<i>M. pulmonis</i> purified bacteria	MFI > 4.250	-	-	-	-	-	-	-	-	-
MAV1										
MAV1 purified virus	MFI > 3.750	-	-	-	-	-	-	-	-	-
MAV2										
MAV2 purified virus	MFI > 4.500	-	-	-	-	-	-	-	-	-
MCMV										
MCMV purified virus	MFI > 3.500	-	-	-	-	-	-	-	-	-
MHV										
MHV purified virus	MFI > 2.500	-	-	-	-	-	-	-	-	-
MHV NC recombinant	MFI > 2.500	-	-	-	-	-	-	-	-	-
MNV										
MNV purified virus	MFI > 3.000	-	-	-	-	-	-	-	-	-
MNV VP1 recombinant	MFI > 4.000	-	-	-	-	-	-	-	-	-

	Baseline	116-A	116-B	116-C	116-D	116-E	116-F	113-A	113-B	113-C
MPV										
MPV VP2 recombinant	MFI > 2.000	-	-	-	-	-	-	-	-	-
NS1 ¹	MFI > 3.750	-	-	-	-	-	-	-	-	-
MVM										
MVM VP2 recombinant	MFI > 2.000	-	-	-	-	-	-	-	-	-
NS1 ¹	MFI > 3.750	-	-	-	-	-	-	-	-	-
Polyoma										
Polyoma purified virus	MFI > 3.750	-	-	-	-	-	-	-	-	-
PVM										
PVM purified virus	MFI > 2.500	-	-	-	-	-	-	-	-	-
REO3										
REO3 purified virus	MFI > 4.900	-	-	-	-	-	-	-	-	-
TMEV										
TMEV purified virus	MFI > 2.250	-	-	-	-	-	-	-	-	-
RTV purified virus	MFI > 2.750	-	-	-	-	-	-	-	-	-
Sendai										
Sendai purified virus	MFI > 3.750	-	-	-	-	-	-	-	-	-
<i>Clostridium piliforme</i>										
<i>Clostridium piliforme</i> purified bacteria	MFI > 4.950	-	-	-	-	-	-	-	-	-

	Baseline	113-D
CAR bacillus		
CAR bacillus purified bacteria	MFI > 3.750	-
<i>Encephalitozoon cuniculi</i>		
<i>E. cuniculi</i> purified protozoa	MFI > 1.200	-
Ectromelia		
Ectromelia purified virus	MFI > 2.000	-
EDIM		
EDIM purified virus	MFI > 4.000	-
EDIM VP6 recombinant	MFI > 2.500	-
LCMV		
LCMV recombinant	MFI > 3.000	-
LDEV		
LDEV	MFI > 4.500	-
<i>Mycoplasma pulmonis</i>		
<i>M. pulmonis</i> purified bacteria	MFI > 4.250	-
MAV1		
MAV1 purified virus	MFI > 3.750	-

	Baseline	113-D
MAV2		
MAV2 purified virus	MFI > 4.500	-
MCMV		
MCMV purified virus	MFI > 3.500	-
MHV		
MHV purified virus	MFI > 2.500	-
MHV NC recombinant	MFI > 2.500	-
MNV		
MNV purified virus	MFI > 3.000	-
MNV VP1 recombinant	MFI > 4.000	-
MPV		
MPV VP2 recombinant	MFI > 2.000	-
NS1 ¹	MFI > 3.750	-
MVM		
MVM VP2 recombinant	MFI > 2.000	-
NS1 ¹	MFI > 3.750	-
Polyoma		
Polyoma purified virus	MFI > 3.750	-
PVM		
PVM purified virus	MFI > 2.500	-
REO3		
REO3 purified virus	MFI > 4.900	-
TMEV		
TMEV purified virus	MFI > 2.250	-
RTV purified virus	MFI > 2.750	-
Sendai		
Sendai purified virus	MFI > 3.750	-
<i>Clostridium piliforme</i>		
<i>Clostridium piliforme</i> purified bacteria	MFI > 4.950	-

NS1¹: NS1 protein is highly conserved among rodent parvoviruses and thus serves as a generic assay for parvovirus seroconversion.

Legend: + = positive - = negative blank = test not performed EQ = equivocal HE = hemolysis precluded testing I = insufficient W = weak positive WB = Western Blot confirmatory analysis pending NS = non-specific reactivity N = normal IgG L = less than normal IgG Positive MFI results are reported as "+" followed by a number from 1 to 33 in thousands rounded off to the nearest thousand.

Test Results

Order #: **2018017071**

University of Missouri
(U Missouri OAR)
OAR Room 01
1720 E Campus Drive
Columbia, MO 65201 USA

Charles River Research Animal Diagnostic Services
(CR RADS)
261 Ballardvale Street
Receiving Dock, Bldg 22
Wilmington MA 01887 USA

Billing Information

Payment Method

Standing Purchase PO#: COLUM-C0000343570
Order Exp. 6/2018

University of Missouri
1720 E Campus Drive
Columbia, MO 65201 USA

Details

Sample(s) from: DCRC

Collection Date
21-Mar-2018

Arrival Date
27-Mar-2018

Approval Date
29-Mar-2018

Notes

Disco - 2018 Q1 - Mice sentinel PCR "A" rooms

Diagnostic Summary

Test	Colony	Tested	+	+/-	?	PDG
All results NEGATIVE						

+ = Positive, +/- = Equivocal, ? = Indeterminate, PDG = Pending

To assure the SPF status of your research animal colonies, it is essential that you understand the sources, pathobiology, diagnosis and control of pathogens and other adventitious infectious agents that may cause research interference. We have summarized this important information in infectious agent **Technical Sheets**, which you can view by visiting http://www.criver.com/info/disease_sheets.

Test Results

Order #: 2018017071

University of Missouri
(U Missouri OAR)
OAR Room 01
1720 E Campus Drive
Columbia, MO 65201 USA

Charles River Research Animal Diagnostic Services
(CR RADS)
261 Ballardvale Street
Receiving Dock, Bldg 22
Wilmington MA 01887 USA

Sample(s) from: DCRC

Notes

Disco - 2018 Q1 - Mice sentinel PCR "A" rooms

Results approved by Magan, Kyria on 29 Mar 2018

Molecular Diagnostics: Infectious Disease PCR

U Missouri Mite and Pinworm Screen PCR

	<u>1</u> 113	<u>2</u> 116
Mite PCR	-	-
Pinworm PCR	-	-

Remarks

- = Negative, +/- = Equivocal; + = Positive; I = Inconclusive.

An equivocal result indicates inconsistent amplification detected by real-time PCR.

Inconclusive indicates failure of control result.

Nucleic Acid Recovery Control (NRC)/Inhibition Control: A low copy exogenous nucleic acid was added to sample lysis prior to nucleic acid isolation to serve as both a control to monitor for nucleic acid recovery and PCR inhibition. An RNA NRC also monitors reverse transcription for RNA virus assays. Nucleic acid recovery and PCR inhibition is monitored by a PCR assay specific for the NRC template. Unless otherwise stated, the control results passed for this order.

Any samples reported as equivocal or positive result in this report has been confirmed by re-extracting nucleic acid and repeating real-time PCR amplification to confirm the initial testing result.

Recommended sample types are essential to accurate results. Missing or inappropriate sample types can effect detection. If this report contains an unexpected result or are unsure of recommended sample types, please call Lab Services (781) 222-6701 before taking any action. Additional or alternative testing may be essential to reaching an accurate diagnosis. We will be glad to test newly submitted samples for the positive agents up to the number of unexpected results in this order.

Test Results

Order #: 2018017071

University of Missouri
(U Missouri OAR)
OAR Room 01
1720 E Campus Drive
Columbia, MO 65201 USA

Charles River Research Animal Diagnostic Services
(CR RADS)
261 Ballardvale Street
Receiving Dock, Bldg 22
Wilmington MA 01887 USA

Sample(s) from: DCRC

Notes

Disco - 2018 Q1 - Mice sentinel PCR "A" rooms

Sample Information

Number	Code	Species	Colony	Investigator	Facility	Location	Strain	Placem ent Date
1	113	Mouse	DCRC Sentinel	Bryda	Discovery Ridge	W113	CR ATH HE	12/18/1 7
2	116	Mouse	DCRC Sentinel	Franklin / Bryda	Discovery Ridge	W116	CR ATH HE	12/18/1 7

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IDEXX BioResearch Case # 9749-2018

**Received: 3/21/2018
Completed: 3/22/2018**

Submitted By

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Referred By

Craig Franklin
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Veterinary Pathobiology
4011 Discovery Drive
Columbia, MO 65201

Fax: [573] 884=7521
Email: FranklinC@missouri.edu

Specimen Description

Species: mouse
Description: 1 mouse fur mite swab
Number of Specimens/Animals: 1
Building/Facility: Discovery Ridge
Area: W113

Client ID	Investigator	Room #
W113 fur mite swab racks 3-6	Bryda	W113

Services/Tests Performed: Fur Mite

PCR evaluation for: *Myocoptes*, *Radfordia*/*Myobia*

General Comments: AO Quarterly fur mite testing.

Summary: All test results were negative.

PCR EVALUATION

pelt swab	W113 fur mite swab racks 3-6
<i>Myocoptes</i>	-
<i>Radfordia/Myobia</i>	-

Legend: + = positive - = negative id:id = pooled sample range id+id+id = non-range pooled sample NT or blank = no test performed wps = weak positive

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IDEXX BioResearch Case # 9750-2018

**Received: 3/21/2018
Completed: 3/22/2018**

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4011 Discovery Drive
Columbia, MO 65201

Fax: [573] 884=7521
Email: FranklinC@missouri.edu

Specimen Description

Species: mouse
Description: 2 mouse fur mite swab
Number of Specimens/Animals: 2
Building/Facility: Discovery Ridge
Area: W116

ID	Client ID	Investigator	Room #
1	W116 fur mite swab racks 1-3	Bryda	W116
2	W116 fur mite swab racks 4-6	Bryda	W116

Services/Tests Performed: Fur Mite

PCR evaluation for: *Myocoptes*, *Radfordia/Myobia*

General Comments: AOQuarterly fur mite swabs

Summary: All test results were negative.

PCR EVALUATION

pelt swab	1	2
<i>Mycoptes</i>	-	-
<i>Radfordia/Myobia</i>	-	-

Legend: + = positive - = negative id:id = pooled sample range id+id+id = non-range pooled sample NT or blank = no test performed wps = weak positive