



FINAL REPORT OF LABORATORY EXAMINATION

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IDEXX BioResearch Case # 27429-2017

Received: 9/21/2017
Completed: 9/26/2017

Submitted By

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Specimen Description

Species: rat
Description: Live sentinel rats
Number of Specimens/Animals: 12
Building/Facility: Discovery Ridge

Table with 8 columns: Client ID, Addl ID, Investigator, Room #, Strain /Breed, Sex, Rack, Date Placed. Contains 12 rows of specimen data.

Services/Tests Performed: Rederivation Necropsy Profile

Serologic evaluation for antibodies to: Clostridium piliforme, Mycoplasma pulmonis, CAR bacillus, H1,
Hantaan, KRV, LCMV, MAV1, PVM, RCV/SDAV, REO3, RMV, RPV, RTV, Sendai

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

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

Microbiologic evaluation for: Corynebacterium kutscheri, Pasteurella multocida, Pasteurella pneumotropica

biotype Heyl, *Pasteurella pneumotropica* biotype Jawetz, *Salmonella enterica*, *Streptococcus pneumoniae*

General Comments: Discovery Ridge 2017 Q3 rat sentinel necropsies, 'A' rooms

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

	1	2	3	4	5	6	7	8	9	10
CAR bacillus	-	-	-	-	-	-	-	-	-	-
Hantaan	-	-	-	-	-	-	-	-	-	-
LCMV	-	-	-	-	-	-	-	-	-	-
<i>Mycoplasma pulmonis</i>	-	-	-	-	-	-	-	-	-	-
MAV1	-	-	-	-	-	-	-	-	-	-
RPV	-	-	-	-	-	-	-	-	-	-
RMV	-	-	-	-	-	-	-	-	-	-
KRV	-	-	-	-	-	-	-	-	-	-
H1	-	-	-	-	-	-	-	-	-	-
PVM	-	-	-	-	-	-	-	-	-	-
RCV/SDAV	-	-	-	-	-	-	-	-	-	-
REO3	-	-	-	-	-	-	-	-	-	-
RTV	-	-	-	-	-	-	-	-	-	-
Sendai	-	-	-	-	-	-	-	-	-	-
<i>Clostridium piliforme</i>	-	-	-	-	-	-	-	-	-	-
Rat IgG	N	N	N	N	N	N	N	N	N	N

	11	12
CAR bacillus	-	-
Hantaan	-	-
LCMV	-	-
<i>Mycoplasma pulmonis</i>	-	-
MAV1	-	-
RPV	-	-
RMV	-	-
KRV	-	-
H1	-	-
PVM	-	-
RCV/SDAV	-	-
REO3	-	-
RTV	-	-
Sendai	-	-
<i>Clostridium piliforme</i>	-	-
Rat IgG	N	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	1	2	3	4	5	6	7	8	9	10
<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	11	12
<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>	-	-

lung	1	2	3	4	5	6	7	8	9	10
<i>Pneumocystis carinii</i>	-	-	-	-	-	-	-	-	-	-

lung	11	12
<i>Pneumocystis carinii</i>	-	-

oral swab	1	2	3	4	5	6	7	8	9	10
<i>Mycoplasma pulmonis</i>	-	-	-	-	-	-	-	-	-	-
<i>Streptobacillus moniliformis</i>	-	-	-	-	-	-	-	-	-	-

oral swab	11	12
<i>Mycoplasma pulmonis</i>	-	-
<i>Streptobacillus moniliformis</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

	1	2	3	4	5	6	7	8	9	10
parasites	-	-	-	-	-	-	-	-	-	-

	11	12
parasites	-	-

MICROBIOLOGY

Specimen/Source: cecum

Isolate	1	2	3	4	5	6	7	8	9	10
<i>Salmonella enterica</i>	-	-	-	-	-	-	-	-	-	-

Specimen/Source: cecum

Isolate	11	12
<i>Salmonella enterica</i>	-	-

Specimen/Source: nasopharynx

Isolate	1	2	3	4	5	6	7	8	9	10
<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	11	12
<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	1	2	3	4	5	6	7	8	9	10
CAR bacillus											
CAR bacillus purified bacteria	MFI > 3.750	-	-	-	-	-	-	-	-	-	-
Hantaan											
Hantaan NP	MFI > 4.000	-	-	-	-	-	-	-	-	-	-
LCMV											
LCMV recombinant	MFI > 3.000	-	-	-	-	-	-	-	-	-	-
Mycoplasma pulmonis											
M. pulmonis purified bacteria	MFI > 3.000	-	-	-	-	-	-	-	-	-	-
MAV1											
MAV1 purified virus	MFI > 3.750	-	-	-	-	-	-	-	-	-	-
RPV											
RPV purified virus	MFI > 2.250	-	-	-	-	-	-	-	-	-	-
NS1 ¹	MFI > 3.750	-	-	-	-	-	-	-	-	-	-
RMV											
RMV VP2 recombinant	MFI > 2.000	-	-	-	-	-	-	-	-	-	-
NS1 ¹	MFI > 3.750	-	-	-	-	-	-	-	-	-	-
KRV											
KRV purified virus	MFI > 3.000	-	-	-	-	-	-	-	-	-	-
NS1 ¹	MFI > 3.750	-	-	-	-	-	-	-	-	-	-
H1											
H1 purified virus	MFI > 1.750	-	-	-	-	-	-	-	-	-	-
NS1 ¹	MFI > 3.750	-	-	-	-	-	-	-	-	-	-
PVM											
PVM purified virus	MFI > 2.500	-	-	-	-	-	-	-	-	-	-
RCV/SDAV											
RCV/SDAV purified virus	MFI > 3.750	-	-	-	-	-	-	-	-	-	-
RCV/SDAV Spike	MFI > 3.750	-	-	-	-	-	-	-	-	-	-

If you have questions, please call our toll free number at 1-800-669-0825 or e-mail us at idexxbioresearch@idexx.com.

	Baseline	1	2	3	4	5	6	7	8	9	10
REO3											
REO3 purified virus	MFI > 4.900	-	-	-	-	-	-	-	-	-	-
RTV											
RTV purified virus	MFI > 2.000	-	-	-	-	-	-	-	-	-	-
TMEV purified virus	MFI > 2.000	-	-	-	-	-	-	-	-	-	-
Sendai											
Sendai purified virus	MFI > 3.750	-	-	-	-	-	-	-	-	-	-
<i>Clostridium piliforme</i>											
<i>Clostridium piliforme</i> purified bacteria	MFI > 4.950	-	-	-	-	-	-	-	-	-	-

	Baseline	11	12
CAR bacillus			
CAR bacillus purified bacteria	MFI > 3.750	-	-
Hantaan			
Hantaan NP	MFI > 4.000	-	-
LCMV			
LCMV recombinant	MFI > 3.000	-	-
<i>Mycoplasma pulmonis</i>			
<i>M. pulmonis</i> purified bacteria	MFI > 3.000	-	-
MAV1			
MAV1 purified virus	MFI > 3.750	-	-
RPV			
RPV purified virus	MFI > 2.250	-	-
NS1 ¹	MFI > 3.750	-	-
RMV			
RMV VP2 recombinant	MFI > 2.000	-	-
NS1 ¹	MFI > 3.750	-	-
KRV			
KRV purified virus	MFI > 3.000	-	-
NS1 ¹	MFI > 3.750	-	-
H1			
H1 purified virus	MFI > 1.750	-	-
NS1 ¹	MFI > 3.750	-	-
PVM			
PVM purified virus	MFI > 2.500	-	-
RCV/SDAV			
RCV/SDAV purified virus	MFI > 3.750	-	-
RCV/SDAV Spike	MFI > 3.750	-	-

	Baseline	11	12
REO3			
REO3 purified virus	MFI > 4.900	-	-
RTV			
RTV purified virus	MFI > 2.000	-	-
TMEV purified virus	MFI > 2.000	-	-
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 #: **2017042321**

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
20-Sep-2017

Arrival Date
26-Sep-2017

Approval Date
28-Sep-2017

Notes

Disco - Q3 - Rat 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 #: 2017042321

University of Missouri
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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 - Q3 - Rat sentinel PCR "A" rooms

Molecular Diagnostics: Infectious Disease PCR

Results approved by Magan, Kyria on 28 Sep 2017

U Missouri Mite and Pinworm Screen PCR

	<u>1</u> 112	<u>2</u> 113	<u>3</u> 114
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 up to the number of unexpected results in this order.

Test Results

Order #: **2017042321**

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 - Q3 - Rat sentinel PCR "A" rooms

Sample Information

Number	Code	Species	Colony	Investigator	Facility	Location	Strain	Placem ent Date
1	112	Rat	DCRC Sentinel	Bryda	Discovery Ridge	W112	CD	7/1/17
2	113	Rat	DCRC Sentinel	Bryda	Discovery Ridge	W113	CD	7/1/17
3	114	Rat	DCRC Sentinel	Bryda	Discovery Ridge	W114	CD	7/1/17

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IDEXX BioResearch Case # 27784-2017

Received: 9/20/2017
Completed: 9/21/2017

Submitted By

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Referred By

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 Columbia, MO 65201

Fax: [573] 884=7521
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Specimen Description

Species: rat
 Description: 2 rat fur mite swabs
 Number of Specimens/Animals: 2
 Building/Facility: Discovery Ridge
 Area: W112

ID	Client ID	Investigator	Room #	Sex	Rack
1	W112 Fur mite swab Racks 1-4A	Bryda	W112	U	1-4A
2	W112 Fur Mite swab Racks 4B-7	Bryda	W112	U	4B-7

Services/Tests Performed: Fur Mite

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

General Comments: AOQuarterly fur mite testing.

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

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IDEXX BioResearch Case # 27783-2017

Received: 9/21/2017
Completed: 9/21/2017

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Referred By

Craig Franklin
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 Columbia, MO 65201

Fax: [573] 884=7521
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Specimen Description

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

ID	Client ID	Investigator	Room #	Sex	Rack
1	W113 fur mite swab Rack 2	Bryda	W113	U	2

Services/Tests Performed: Fur Mite

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

General Comments: AOQuarterly Fur Mite testing.

Summary: All test results were negative.

PCR EVALUATION

pelt swab	1
<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

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IDEXX BioResearch Case # 27785-2017

Received: 9/20/2017
Completed: 9/22/2017

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Fax: [573] 884=7521
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Specimen Description

Species: rat
 Description: 1 rat fur mite swab
 Number of Specimens/Animals: 1
 Building/Facility: Discovery Ridge
 Area: W114

ID	Client ID	Investigator	Room #	Sex	Rack
1	W114 Fur Mite swab racks 1-5	Bryda	W114	U	1-5

Services/Tests Performed: Fur Mite

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

General Comments: AOQuarterly fur mite testing.

Summary: All test results were negative.

PCR EVALUATION

pelt swab	1
<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