

FINAL REPORT OF LABORATORY EXAMINATION

4011 Discovery Drive, Columbia, MO 65201

1-800-669-0825 1-573-499-5700

idx-radil@idexx.com

www.idexxbioresearch.com

IDEXX BioResearch Case # 21493-2014

Received: 9/2/2014

Completed: 9/9/2014

Submitted By

Sentinels
University of Missouri-RCA
Columbia, MO 65201

Phone: 573-884-7970
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goerndta@missouri.edu; watermanjd@missouri.edu

Specimen Description

Species: rat
Description: Live Rats
Number of Specimens/Animals: 5
Building/Facility: W112
Area: Racks 1-6

Purchase Order #: DK993

Client ID	Investigator	Room #	Strain	Sex	Age	Rack
1	Bryda	W112	CD	F	Adult	1
2	Bryda	W112	CD	F	Adult	3
3	Bryda	W112	CD	F	Adult	4
4	Bryda	W112	CD	F	Adult	5
5	Bryda	W112	CD	F	Adult	6

Services/Tests Performed: Rederivation Necropsy Profile - rat

Serologic evaluation for antibodies to: *Clostridium piliforme*, *Mycoplasma pulmonis*, CAR bacillus, H1, Hantaan, KRV, LCMV, MAD1, 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*, *Klebsiella oxytoca*, *Klebsiella pneumoniae*, *Pasteurella multocida*, *Pasteurella pneumotropica*, *Pasteurella pneumotropica* biotype Heyl, *Pasteurella pneumotropica* biotype Jawetz, *Salmonella enterica*, *Streptococcus pneumoniae*

General Comments: CB: Sentinels placed on 3/3/2014. Located on cart at Customer Service.

Summary: All test results were negative.

NECROPSY

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

SEROLOGY SUMMARY

	1	2	3	4	5
CAR bacillus	-	-	-	-	-
Hantaan	-	-	-	-	-
LCMV	-	-	-	-	-
<i>Mycoplasma pulmonis</i>	-	-	-	-	-
MAD1	-	-	-	-	-
RPV	-	-	-	-	-
RMV	-	-	-	-	-
KRV	-	-	-	-	-
H1	-	-	-	-	-
PVM	-	-	-	-	-
RCV/SDAV	-	-	-	-	NS
REO3	-	-	-	-	-
RTV	-	-	-	-	-
Sendai	-	-	-	-	-
<i>Clostridium piliforme</i>	-	-	-	-	-
Rat IgG	N	N	N	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

oral swab	1	2	3	4	5
<i>Mycoplasma pulmonis</i>	-	-	-	-	-
<i>Streptobacillus moniliformis</i>	-	-	-	-	-

feces	1	2	3	4	5
<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
<i>Pneumocystis carinii</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

Comments: All samples are first tested by the *Helicobacter* spp. PCR assay which is a generic *Helicobacter* PCR assay that detects all bacteria in the *Helicobacter* genus. Samples testing negative on this assay are reported negative for *Helicobacter* spp. and all species-specific helicobacters. Samples testing positive on the *Helicobacter* spp. assay are retested with the *Helicobacter* spp. assay and tested with the species-specific helicobacter PCR assays.

PARASITOLOGY

	1	2	3	4	5
parasites	-	-	-	-	-

MICROBIOLOGY

cecum	1	2	3	4	5
<i>Klebsiella oxytoca</i>	-	-	-	-	-
<i>Klebsiella pneumoniae</i>	-	-	-	-	-
<i>Salmonella enterica</i>	-	-	-	-	-

nasopharynx	1	2	3	4	5
<i>Corynebacterium kutscheri</i>	-	-	-	-	-
<i>Pasteurella multocida</i>	-	-	-	-	-
<i>Pasteurella pneumotropica</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 p = Proteus overgrowth, which may interfere with the identification of other bacteria

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IDEXX BioResearch Case # 21490-2014

Received: 9/2/2014

Completed: 9/4/2014

Submitted By

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goerndta@missouri.edu; watermanjd@missouri.edu

Specimen Description

Species: rat
Description: Swabs
Number of Specimens/Animals: 2
Building/Facility: W112

Purchase Order #: DK993

Client ID	Addl ID	Investigator	Room #	Rack
C	Rats	Bryda	W112	1 and 3
D	Rats	Bryda	W112	4-6

Services/Tests Performed: Fur Mite - PCR

General Comments: CB: Swabs for quarterly fur mite PCR. C is racks 1 and 3, D is racks 4-6. Located at Customer Service.

Summary: All test results were negative.

PCR EVALUATION

skin swab	C	D
<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

FINAL REPORT OF LABORATORY EXAMINATION

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IDEXX BioResearch Case # 21492-2014

Received: 9/2/2014

Completed: 9/8/2014

Submitted By

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Columbia, MO 65201

Phone: 573-884-7970
Email: franklinc@missouri.edu; bethunec@missouri.edu;
goerndta@missouri.edu; watermanjd@missouri.edu

Specimen Description

Species: rat
Description: Live Rat
Number of Specimens/Animals: 1
Building/Facility: W113
Area: Rack 1

Purchase Order #: DK993

ID	Client ID	Investigator	Room #	Strain	Sex	Age	Rack
1	1	Bryda	W113	CD	F	Adult	1

Services/Tests Performed: Rederivation Necropsy Profile - rat

Serologic evaluation for antibodies to: *Clostridium piliforme*, *Mycoplasma pulmonis*, CAR bacillus, H1, Hantaan, KRV, LCMV, MAD1, 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*, *Klebsiella oxytoca*, *Klebsiella pneumoniae*, *Pasteurella multocida*, *Pasteurella pneumotropica*, *Pasteurella pneumotropica* biotype Heyl, *Pasteurella pneumotropica* biotype Jawetz, *Salmonella enterica*, *Streptococcus pneumoniae*

General Comments: CB: Sentinels placed on 3/3/2014. Located on cart at Customer Service.

Summary: All test results were negative.

NECROPSY

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

SEROLOGY SUMMARY

	1
CAR bacillus	-
Hantaan	-
LCMV	-
<i>Mycoplasma pulmonis</i>	-
MAD1	-
RPV	-
RMV	-
KRV	-
H1	-
PVM	-
RCV/SDAV	-
REO3	-
RTV	-
Sendai	-
<i>Clostridium piliforme</i>	-
Rat 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

oral swab	1
<i>Mycoplasma pulmonis</i>	-
<i>Streptobacillus moniliformis</i>	-

feces	1
<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
<i>Pneumocystis carinii</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

Comments: All samples are first tested by the *Helicobacter* spp. PCR assay which is a generic *Helicobacter* PCR assay that detects all bacteria in the *Helicobacter* genus. Samples testing negative on this assay are reported negative for *Helicobacter* spp. and all species-specific helicobacters. Samples testing positive on the *Helicobacter* spp. assay are retested with the *Helicobacter* spp. assay and tested with the species-specific helicobacter PCR assays.

PARASITOLOGY

	1
parasites	-

MICROBIOLOGY

cecum	1
<i>Klebsiella oxytoca</i>	-
<i>Klebsiella pneumoniae</i>	-
<i>Salmonella enterica</i>	-

nasopharynx	1
<i>Corynebacterium kutscheri</i>	-
<i>Pasteurella multocida</i>	-
<i>Pasteurella pneumotropica</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 p = Proteus overgrowth, which may interfere with the identification of other bacteria

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IDEXX BioResearch Case # 21495-2014

Received: 9/2/2014

Completed: 9/8/2014

Submitted By

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Email: franklinc@missouri.edu; bethunec@missouri.edu;
goerndta@missouri.edu; watermanjd@missouri.edu

Specimen Description

Species: rat
Description: Live Rats
Number of Specimens/Animals: 2
Building/Facility: W114
Area: Racks 1-2

Purchase Order #: DK993

Client ID	Investigator	Room #	Strain	Sex	Age	Rack
1	Bryda	W114	CD	F	Adult	1
2	Bryda	W114	CD	F	Adult	2

Services/Tests Performed: Rederivation Necropsy Profile - rat

Serologic evaluation for antibodies to: *Clostridium piliforme*, *Mycoplasma pulmonis*, CAR bacillus, H1, Hantaan, KRV, LCMV, MAD1, 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*, *Klebsiella oxytoca*, *Klebsiella pneumoniae*, *Pasteurella multocida*, *Pasteurella pneumotropica*, *Pasteurella pneumotropica* biotype Heyl, *Pasteurella pneumotropica* biotype Jawetz, *Salmonella enterica*, *Streptococcus pneumoniae*

General Comments: CB: Sentinels placed on 3/3/2014. Located on cart at Customer Service.

Summary: All test results were negative.

NECROPSY

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

SEROLOGY SUMMARY

	1	2
CAR bacillus	-	-
Hantaan	-	-
LCMV	-	-
<i>Mycoplasma pulmonis</i>	-	-
MAD1	-	-
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

oral swab	1	2
<i>Mycoplasma pulmonis</i>	-	-
<i>Streptobacillus moniliformis</i>	-	-

feces	1	2
<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
<i>Pneumocystis carinii</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

Comments: All samples are first tested by the *Helicobacter* spp. PCR assay which is a generic *Helicobacter* PCR assay that detects all bacteria in the *Helicobacter* genus. Samples testing negative on this assay are reported negative for *Helicobacter* spp. and all species-specific helicobacters. Samples testing positive on the *Helicobacter* spp. assay are retested with the *Helicobacter* spp. assay and tested with the species-specific helicobacter PCR assays.

PARASITOLOGY

	1	2
parasites	-	-

MICROBIOLOGY

cecum	1	2
<i>Klebsiella oxytoca</i>	-	-
<i>Klebsiella pneumoniae</i>	-	-
<i>Salmonella enterica</i>	-	-

nasopharynx	1	2
<i>Corynebacterium kutscheri</i>	-	-
<i>Pasteurella multocida</i>	-	-
<i>Pasteurella pneumotropica</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 p = Proteus overgrowth, which may interfere with the identification of other bacteria

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IDEXX BioResearch Case # 21491-2014

Received: 9/2/2014

Completed: 9/4/2014

Submitted By

Sentinels
University of Missouri-RCA
Columbia, MO 65201

Phone: 573-884-7970
Email: franklinc@missouri.edu; bethunec@missouri.edu;
goerndta@missouri.edu; watermanjd@missouri.edu

Specimen Description

Species: rat
Description: Swabs
Number of Specimens/Animals: 2
Building/Facility: W114

Purchase Order #: DK993

Client ID	Addl ID	Investigator	Room #	Rack
E	Rats	Bryda	W114	1
F	Rats	Bryda	W114	2

Services/Tests Performed: Fur Mite - PCR

General Comments: CB: Swabs for quarterly fur mite PCR. E is rack 1 and F is rack 2. Located at Customer Service.

Summary: All test results were negative.

PCR EVALUATION

skin swab	E	F
<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

FINAL REPORT OF LABORATORY EXAMINATION

4011 Discovery Drive, Columbia, MO 65201

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IDEXX BioResearch Case # 21489-2014

Received: 9/2/2014

Completed: 9/4/2014

Submitted By

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University of Missouri-RCA
Columbia, MO 65201

Phone: 573-884-7970
Email: franklinc@missouri.edu; bethunec@missouri.edu;
goerndta@missouri.edu; watermanjd@missouri.edu

Specimen Description

Species: mouse/rat
Description: Swabs
Number of Specimens/Animals: 2
Building/Facility: W113

Purchase Order #: DK993 and DK023

Client ID	Addl ID	Investigator	Room #	Rack
A	Rats	Bryda	W113	1
B	Mice	Bryda	W113	2-6

Services/Tests Performed: Fur Mite - PCR

General Comments: CB: Swabs for quarterly fur mite PCR. A for rats and B for mouse. Located at Customer Service.

Summary: All test results were negative.

PCR EVALUATION

skin swab	A	B
<i>Mycocptes</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