

**IDEXX RADIL™****FINAL REPORT OF LABORATORY EXAMINATION**

4011 Discovery Drive, Columbia MO 65201

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

[idx-radil@idexx.com](mailto:idx-radil@idexx.com)[www.idexxradil.com](http://www.idexxradil.com)**CASE NUMBER: 25798-2012****RECEIVED ON: 12/12/2012****COMPLETED ON: 12/21/2012****SUBMITTED BY:**

Sentinels  
 University of Missouri-RCA  
 Columbia, MO 65201  
 United States  
 573-884-7970

**SPECIMEN DESCRIPTION:****SPECIES:** rat**DESCRIPTION:** live rats**NUMBER OF SPECIMENS:** 10**BUILDING/FACILITY:** W112

<b>ID</b>	<b>Investigator</b>	<b>Room #</b>	<b>Strain</b>	<b>Sex</b>	<b>Age</b>	<b>Rack</b>	<b>Date Placed</b>
1	Franklin	W112	CD	f	adult	3	9/24/2012
2			CD			3	
3			CD			4	
4			CD			4	
5			CD			5	
6			CD			5	
7			CD			6	
8			CD			6	
9			CD			7	
10			CD			7	

**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, *Encephalitozoon cuniculi*

**PCR evaluation for:** *Helicobacter bilis*, *Helicobacter ganmani*, *Helicobacter hepaticus*, *Helicobacter rodentium*, *Helicobacter* sp., *Helicobacter trogontum*, *Helicobacter typhlonius*, *Mycoplasma pulmonis*, *Pasteurella pneumotropica*, *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*, *Salmonella enterica*, *Streptococcus pneumoniae*

**GENERAL COMMENTS:** Sentinel animals placed 9/24/12**SUMMARY:** No conclusive evidence of serious, naturally occurring infectious disease was found.If you have questions, please call our toll free number at 1-800-669-0825 or e-mail us at [idx-radil@idexx.com](mailto:idx-radil@idexx.com).

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**NECROPSY:**

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

**SEROLOGY:**

**MFI<sup>2</sup> Serology Summary Report:**

Date: 12/17/2012	1	2	3	4	5	6	7	8	9	10
<b>CAR bacillus</b>	-	-	-	-	-	-	-	-	-	-
<i>Encephalitozoon cuniculi</i>	-	-	-	-	-	-	-	-	-	-
<b>Hantaan</b>	-	-	-	-	-	-	-	-	-	-
<b>LCMV</b>	-	-	-	-	-	-	-	-	-	-
<i>Mycoplasma pulmonis</i>	-	-	-	-	-	-	-	-	-	-
<b>MAD1</b>	-	-	-	-	-	-	-	-	-	-
<b>RPV</b>	-	-	-	-	-	-	-	-	-	-
<b>RMV</b>	-	-	-	-	-	-	-	-	-	-
<b>KRV</b>	-	-	-	-	-	-	-	-	-	-
<b>H1</b>	-	-	-	-	-	-	-	-	-	-
<b>PVM</b>	-	-	-	-	-	-	-	-	-	-
<b>RCV/SDAV</b>	-	-	-	-	-	-	-	-	-	-
<b>REO3</b>	-	-	-	-	-	-	-	-	-	-
<b>RTV</b>	-	-	-	-	-	-	-	-	-	-
<b>Sendai</b>	-	-	-	-	-	-	-	-	-	-
<i>Clostridium piliforme</i>	-	-	-	-	-	-	-	-	-	-
Rat IgG	N	N	N	N	N	N	N	N	N	N

**Serology Detail Report:**

		1	2	3	4	5	6	7	8	9	10
<b>CAR bacillus</b>											
CAR bacillus purified bacteria	MFI ( > 3.750)	-	-	-	-	-	-	-	-	-	-
<i>Encephalitozoon cuniculi</i>											
<i>E. cuniculi</i> purified protozoa	MFI ( > 0.600)	-	-	-	-	-	-	-	-	-	-
<b>Hantaan</b>											
Hantaan purified virus	MFI ( > 0.712)	-	-	-	-	-	-	-	-	-	-
<b>LCMV</b>											
LCMV purified virus	MFI ( > 0.200)	-	-	-	-	-	-	-	-	-	-
<i>Mycoplasma pulmonis</i>											
<i>M. pulmonis</i> purified bacteria	MFI ( > 2.750)	-	-	-	-	-	-	-	-	-	-

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Serology (continued)

		1	2	3	4	5	6	7	8	9	10
<b>MAD1</b>											
MAD1 purified virus	MFI ( > 2.550)	-	-	-	-	-	-	-	-	-	-
<b>RPV</b>											
RPV purified virus	MFI ( > 1.100)	-	-	-	-	-	-	-	-	-	-
NS1 <sup>1</sup>	MFI ( > 3.820)	-	-	-	-	-	-	-	-	-	-
<b>RMV</b>											
RMV VP2 recombinant	MFI ( > 0.845)	-	-	-	-	-	-	-	-	-	-

NS1 <sup>1</sup>	MFI ( > 3.820)	- - - - -
<b>KRV</b>		
KRV purified virus	MFI ( > 2.250)	- - - - -
NS1 <sup>1</sup>	MFI ( > 3.820)	- - - - -
<b>H1</b>		
H1 purified virus	MFI ( > 1.200)	- - - - -
NS1 <sup>1</sup>	MFI ( > 3.820)	- - - - -
<b>PVM</b>		
PVM purified virus	MFI ( > 1.500)	- - - - -
<b>RCV/SDAV</b>		
RCV/SDAV purified virus	MFI ( > 3.750)	- - - - -
RCV/SDAV NC recombinant	MFI ( > 4.950)	- - - - -
<b>REO3</b>		
REO3 purified virus	MFI ( > 4.500)	- - - - -
<b>RTV</b>		
RTV purified virus	MFI ( > 1.100)	- - - - -
TMEV purified virus	MFI ( > 1.100)	- - - - -
<b>Sendai</b>		
Sendai purified virus	MFI ( > 2.800)	- - - - -
<b><i>Clostridium piliforme</i></b>		
<i>Clostridium piliforme</i> purified bacteria	MFI ( > 4.950)	- - - - -

**NS1<sup>1</sup>** = NS1 protein is highly conserved among rodent parvoviruses and thus serves as a generic assay for parvovirus seroconversion.

(LEGEND: \* = borderline + = positive - = negative blank = test not performed EQ = equivocal HE = hemolysis precluded testing I = insufficient L = less than 10% normal IgG N = normal IgG NS = non-specific reactivity W = weak positive WB = Western Blot confirmatory analysis pending)

Positive MFI results are reported as "+" followed by a number from 1 to 33 in thousands rounded off to the nearest thousand.

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**PCR EVALUATION:**

Specimen: feces	1	2	3	4	5	6	7	8	9	10
<i>Helicobacter bilis</i>	-	-	-	-	-	-	-	-	-	-
<i>Helicobacter ganmani</i>	-	-	-	-	-	-	-	-	-	-
<i>Helicobacter hepaticus</i>	-	-	-	-	-	-	-	-	-	-
<i>Helicobacter rodentium</i>	-	-	-	-	-	-	-	-	-	-
<i>Helicobacter trogontum</i>	-	-	-	-	-	-	-	-	-	-
<i>Helicobacter typhlonius</i>	-	-	-	-	-	-	-	-	-	-
<i>Helicobacter</i> sp.	-	-	-	-	-	-	-	-	-	-
Specimen: lung	1	2	3	4	5	6	7	8	9	10
<i>Pneumocystis carinii</i>	-	-	-	-	-	-	-	-	-	-
Specimen: nasopharyngeal swab	1	2	3	4	5	6	7	8	9	10
<i>Mycoplasma pulmonis</i>	-	-	-	-	-	-	-	-	-	-

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

(LEGEND: + = positive - = negative id:id = pooled sample blank = test not performed equ = equivocal NT or blank = no test performed sus = suspect wps = weak positive)

All samples are first tested using a generic *Helicobacter* PCR assay that detects all bacteria in the *Helicobacter* genus. Samples testing negative on this assay are reported negative for all helicobacters. Samples testing positive on the generic assay are subsequently tested with PCR assays specific for *H. bilis*, *H. ganmani*, *H. hepaticus*, *H. rodentium*, *H. trogontum* and *H. typhlonius* and positive results are reported. If the sample is positive on the generic *Helicobacter* assay, but negative on the six *Helicobacter* species-specific assays, the sample is reported positive for *Helicobacter* sp.

**PARASITOLOGY:**

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

**MICROBIOLOGY:**

cecum	1	2	3	4	5	6	7	8	9	10
<i>Klebsiella oxytoca</i>	-	-	-	-	-	-	-	-	-	-
<i>Klebsiella pneumoniae</i>	-	-	-	-	-	-	-	-	-	-
<i>Salmonella enterica</i>	-	-	-	-	-	-	-	-	-	-

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Microbiology (continued)

nasopharynx	1	2	3	4	5	6	7	8	9	10
<i>Corynebacterium kutscheri</i>	-	-	-	-	-	-	-	-	-	-
<i>Pasteurella multocida</i>	-	-	-	-	-	-	-	-	-	-
<i>Pasteurella pneumotropica</i>	-	-	-	-	-	-	-	-	-	-
<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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CASE NUMBER: 25799-2012

RECEIVED ON: 12/12/2012

COMPLETED ON: 12/21/2012

**SUBMITTED BY:**

Sentinels  
 University of Missouri-RCA  
 Columbia, MO 65201  
 United States  
 573-884-7970

**SPECIMEN DESCRIPTION:****SPECIES:** rat**DESCRIPTION:** live rats**NUMBER OF SPECIMENS:** 4**BUILDING/FACILITY:** W113

<u>ID</u>	<u>Investigator</u>	<u>Room #</u>	<u>Strain</u>	<u>Sex</u>	<u>Age</u>	<u>Rack</u>	<u>Date Placed</u>
1	Franklin	W113	CD	f	adult	1	9/24/2012
2			CD			1	
3			CD			2	
4			CD			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 rodentium*, *Helicobacter sp.*, *Helicobacter trogontum*, *Helicobacter typhlonius*, *Mycoplasma pulmonis*, *Pasteurella pneumotropica*, *Pneumocystis carinii*

**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*, *Salmonella enterica*, *Streptococcus pneumoniae*

**GENERAL COMMENTS:** Sentinel animals placed 9/24/12**SUMMARY:** No conclusive evidence of serious, naturally occurring infectious disease was found.

If you have questions, please call our toll free number at 1-800-669-0825 or e-mail us at [idx-radil@idexx.com](mailto:idx-radil@idexx.com).

Case Number: 25799-2012

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**NECROPSY:**

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

**SEROLOGY:****MFI<sup>2</sup> Serology Summary Report:**

Date: 12/17/2012	1	2	3	4
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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	N	N

**Serology Detail Report:**

		1	2	3	4
<b>CAR bacillus</b>					
CAR bacillus purified bacteria	MFI ( > 3.750)	-	-	-	-
<b>Hantaan</b>					
Hantaan purified virus	MFI ( > 0.712)	-	-	-	-
<b>LCMV</b>					
LCMV purified virus	MFI ( > 0.200)	-	-	-	-
<b><i>Mycoplasma pulmonis</i></b>					
<i>M. pulmonis</i> purified bacteria	MFI ( > 2.750)	-	-	-	-
<b>MAD1</b>					
MAD1 purified virus	MFI ( > 2.550)	-	-	-	-
<b>RPV</b>					
RPV purified virus	MFI ( > 1.100)	-	-	-	-
NS1 <sup>1</sup>	MFI ( > 3.820)	-	-	-	-

Case Number: 25799-2012

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Serology (continued)

		1	2	3	4
<b>RMV</b>					
RMV VP2 recombinant	MFI ( > 0.845)	-	-	-	-
NS1 <sup>1</sup>	MFI ( > 3.820)	-	-	-	-
<b>KRV</b>					
KRV purified virus	MFI ( > 2.250)	-	-	-	-
NS1 <sup>1</sup>	MFI ( > 3.820)	-	-	-	-
<b>H1</b>					
H1 purified virus	MFI ( > 1.200)	-	-	-	-
NS1 <sup>1</sup>	MFI ( > 3.820)	-	-	-	-
<b>PVM</b>					
PVM purified virus	MFI ( > 1.500)	-	-	-	-

**RCV/SDAV**

RCV/SDAV purified virus	MFI ( > 3.750)	-	-	-	-
RCV/SDAV NC recombinant	MFI ( > 4.950)	-	-	-	-

**REO3**

REO3 purified virus	MFI ( > 4.500)	-	-	-	-
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**RTV**

RTV purified virus	MFI ( > 1.100)	-	-	-	-
TMEV purified virus	MFI ( > 1.100)	-	-	-	-

**Sendai**

Sendai purified virus	MFI ( > 2.800)	-	-	-	-
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***Clostridium piliforme***

<i>Clostridium piliforme</i> purified bacteria	MFI ( > 4.950)	-	-	-	-
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**NS1<sup>1</sup>** = NS1 protein is highly conserved among rodent parvoviruses and thus serves as a generic assay for parvovirus seroconversion.

(LEGEND: \* = borderline + = positive - = negative blank = test not performed EQ = equivocal HE = hemolysis precluded testing I = insufficient L = less than 10% normal IgG N = normal IgG NS = non-specific reactivity W = weak positive WB = Western Blot confirmatory analysis pending)

Positive MFI results are reported as "+" followed by a number from 1 to 33 in thousands rounded off to the nearest thousand.

**PCR EVALUATION:**

Specimen: feces	1	2	3	4
<i>Helicobacter bilis</i>	-	-	-	-
<i>Helicobacter ganmani</i>	-	-	-	-
<i>Helicobacter hepaticus</i>	-	-	-	-

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## PCR (continued)

Specimen: feces	1	2	3	4
<i>Helicobacter rodentium</i>	-	-	-	-
<i>Helicobacter trogontum</i>	-	-	-	-
<i>Helicobacter typhlonius</i>	-	-	-	-
<i>Helicobacter</i> sp.	-	-	-	-
Specimen: lung	1	2	3	4
<i>Pneumocystis carinii</i>	-	-	-	-
Specimen: nasopharyngeal swab	1	2	3	4
<i>Mycoplasma pulmonis</i>	-	-	-	-

(LEGEND: + = positive - = negative id:id = pooled sample blank = test not performed equ = equivocal NT or blank = no test performed sus = suspect wps = weak positive)

All samples are first tested using a generic *Helicobacter* PCR assay that detects all bacteria in the *Helicobacter* genus. Samples testing negative on this assay are reported negative for all helicobacters. Samples testing positive on the generic assay are subsequently tested with PCR assays specific for *H. bilis*, *H. ganmani*, *H. hepaticus*, *H. rodentium*, *H. trogontum* and *H. typhlonius* and positive results are reported. If the sample is positive on the generic *Helicobacter* assay, but negative on the six *Helicobacter* species-specific assays, the sample is

reported positive for *Helicobacter* sp.

**PARASITOLOGY:**

	1	2	3	4
parasites	-	-	-	-

**MICROBIOLOGY:**

	1	2	3	4
cecum				
<i>Klebsiella oxytoca</i>	-	-	-	-
<i>Klebsiella pneumoniae</i>	-	-	-	-
<i>Salmonella enterica</i>	-	-	-	-
nasopharynx	1	2	3	4
<i>Corynebacterium kutscheri</i>	-	-	-	-
<i>Pasteurella multocida</i>	-	-	-	-
<i>Pasteurella pneumotropica</i>	-	-	-	-
<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)