

**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: 19776-2013****RECEIVED ON: 9/11/2013****COMPLETED ON: 9/18/2013****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:** 3**BUILDING/FACILITY:** W114

<u>ID</u>	<u>Investigator</u>	<u>Room #</u>	<u>Strain</u>	<u>Sex</u>	<u>Age</u>	<u>Rack</u>
1	Bryda	W114	CD	F	Adult	1
2		W114	CD	F	Adult	2
3		W114	CD	F	Adult	3

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

**GENERAL COMMENTS:** CB: Sentinel rats placed 6/10/2013 LOCATED ON CART OUTSIDE CUSTOMER SERVICE

**SUMMARY:** All test results were negative.

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: 9/13/2013	<b>1</b>	<b>2</b>	<b>3</b>
<b>CAR bacillus</b>	-	-	-
<b>Hantaan</b>	-	-	-
<b>LCMV</b>	-	-	-
<b><i>Mycoplasma pulmonis</i></b>	-	-	-
<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>	-	-	-
<b><i>Clostridium piliforme</i></b>	-	-	-
Rat IgG	N	N	N

**Serology Detail Report:**

		<b>1</b>	<b>2</b>	<b>3</b>
<b>CAR bacillus</b>				
CAR bacillus purified bacteria	MFI ( > 3.750)	-	-	-
<b>Hantaan</b>				
Hantaan purified virus	MFI ( > 0.725)	-	-	-
<b>LCMV</b>				
LCMV purified virus	MFI ( > 0.300)	-	-	-
<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 ( > 1.450)	-	-	-
NS1 <sup>1</sup>	MFI ( > 3.820)	-	-	-

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## Serology (continued)

		1	2	3
<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 ( > 1.250)	-	-	-
<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: + = positive - = negative blank = test not performed EQ = equivocal HE = hemolysis precluded testing I = insufficient L = less than 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
<i>Helicobacter</i> spp.	-	-	-
<i>Helicobacter bilis</i>	-	-	-
<i>Helicobacter ganmani</i>	-	-	-
<i>Helicobacter hepaticus</i>	-	-	-

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## PCR (continued)

Specimen: feces	1	2	3
<i>Helicobacter rodentium</i>	-	-	-
<i>Helicobacter typhlonius</i>	-	-	-
Specimen: lung	1	2	3
<i>Pneumocystis carinii</i>	-	-	-
Specimen: nasopharyngeal swab	1	2	3
<i>Mycoplasma pulmonis</i>	-	-	-
Specimen: oral swab	1	2	3
<i>Streptobacillus moniliformis</i>	-	-	-

(LEGEND: + = positive - = negative id:id = pooled sample NT or blank = no test performed  
wps = weak positive)

All samples are first tested by the *Helicobacter* spp. PCR assay; 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 subsequently retested on the *Helicobacter* spp. assay and tested with PCR assays specific for *H. bilis*, *H. ganmani*, *H. hepaticus*, *H. rodentium* and *H. typhlonius* and positive results are reported.

**PARASITOLOGY:**

	1	2	3
parasites	-	-	-

**MICROBIOLOGY:**

cecum	1	2	3
<i>Klebsiella oxytoca</i>	-	-	-
<i>Klebsiella pneumoniae</i>	-	-	-
<i>Salmonella enterica</i>	-	-	-
nasopharynx	1	2	3
<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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Sentinels  
 University of Missouri-RCA  
 Columbia, MO 65201  
 United States  
 573-884-7970

**SPECIMEN DESCRIPTION:****SPECIES:** rat**DESCRIPTION:** Live Rat**NUMBER OF SPECIMENS:** 1**BUILDING/FACILITY:** W113

<u>ID</u>	<u>Investigator</u>	<u>Room #</u>	<u>Strain</u>	<u>Sex</u>	<u>Age</u>	<u>Rack</u>
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 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*, *Salmonella enterica*, *Streptococcus pneumoniae*

**GENERAL COMMENTS:** CB: Sentinel rat placed 6/10/2013 LOCATED ON CART OUTSIDE CUSTOMER SERVICE

**SUMMARY:** All test results were negative.

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: 9/13/2013	<b>1</b>
<b>CAR bacillus</b>	-
<b>Hantaan</b>	-
<b>LCMV</b>	-
<b><i>Mycoplasma pulmonis</i></b>	-
<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>	-
<b><i>Clostridium piliforme</i></b>	-
Rat IgG	N

**Serology Detail Report:**

			1
<b>CAR bacillus</b>			
CAR bacillus purified bacteria	MFI ( > 3.750)	-	
<b>Hantaan</b>			
Hantaan purified virus	MFI ( > 0.725)	-	
<b>LCMV</b>			
LCMV purified virus	MFI ( > 0.300)	-	
<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 ( > 1.450)	-	
NS1 <sup>1</sup>	MFI ( > 3.820)	-	

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## Serology (continued)

		1
<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 ( > 1.250)	-
<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: + = positive - = negative blank = test not performed EQ = equivocal HE = hemolysis precluded testing I = insufficient L = less than 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
<i>Helicobacter</i> spp.	-
<i>Helicobacter bilis</i>	-
<i>Helicobacter ganmani</i>	-
<i>Helicobacter hepaticus</i>	-

Case Number: 19777-2013

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## PCR (continued)

Specimen: feces	1
<i>Helicobacter rodentium</i>	-
<i>Helicobacter typhlonius</i>	-
Specimen: lung	1
<i>Pneumocystis carinii</i>	-
Specimen: nasopharyngeal swab	1
<i>Mycoplasma pulmonis</i>	-
Specimen: oral swab	1
<i>Streptobacillus moniliformis</i>	-

(LEGEND: + = positive - = negative id:id = pooled sample NT or blank = no test performed  
wps = weak positive)

All samples are first tested by the *Helicobacter* spp. PCR assay; 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 subsequently retested on the *Helicobacter* spp. assay and tested with PCR assays specific for *H. bilis*, *H. ganmani*, *H. hepaticus*, *H. rodentium* and *H. typhlonius* and positive results are reported.

**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>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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[idx-radil@idexx.com](mailto:idx-radil@idexx.com)[www.idexxradil.com](http://www.idexxradil.com)**CASE NUMBER: 19775-2013****RECEIVED ON: 9/11/2013****COMPLETED ON: 9/18/2013****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:** 6**BUILDING/FACILITY:** W112

<u>ID</u>	<u>Investigator</u>	<u>Room #</u>	<u>Strain</u>	<u>Sex</u>	<u>Age</u>	<u>Rack</u>
1	Bryda	W112	CD	F	Adult	1
2			CD	F	Adult	2
3			CD	F	Adult	3
4			CD	F	Adult	4
5			CD	F	Adult	5
6			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 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*, *Salmonella enterica*, *Streptococcus pneumoniae*

**GENERAL COMMENTS:** CB: Sentinel rats placed 6/10/2013 LOCATED ON CART OUTSIDE CUSTOMER SERVICE

**SUMMARY:** All test results were negative.

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: 19775-2013

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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: 9/13/2013	1	2	3	4	5	6
<b>CAR bacillus</b>	-	-	-	-	-	-
<b>Hantaan</b>	-	-	-	-	-	-
<b>LCMV</b>	-	-	-	-	-	-
<b><i>Mycoplasma pulmonis</i></b>	-	-	-	-	-	-
<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>	-	-	-	-	-	-
<b><i>Clostridium piliforme</i></b>	-	-	-	-	-	-
Rat IgG	N	N	N	N	N	N

**Serology Detail Report:**

		1	2	3	4	5	6
<b>CAR bacillus</b>							
CAR bacillus purified bacteria	MFI ( > 3.750)	-	-	-	-	-	-
<b>Hantaan</b>							
Hantaan purified virus	MFI ( > 0.725)	-	-	-	-	-	-
<b>LCMV</b>							
LCMV purified virus	MFI ( > 0.300)	-	-	-	-	-	-
<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 ( > 1.450)	-	-	-	-	-	-
NS1 <sup>1</sup>	MFI ( > 3.820)	-	-	-	-	-	-

Case Number: 19775-2013

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## Serology (continued)

		1	2	3	4	5	6
<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 ( > 1.250)	-	-	-	-	-	-
<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: + = positive - = negative blank = test not performed EQ = equivocal HE = hemolysis precluded testing I = insufficient L = less than 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	5	6
<i>Helicobacter</i> spp.	-	-	-	-	-	-
<i>Helicobacter bilis</i>	-	-	-	-	-	-
<i>Helicobacter ganmani</i>	-	-	-	-	-	-
<i>Helicobacter hepaticus</i>	-	-	-	-	-	-

Case Number: 19775-2013

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## PCR (continued)

Specimen: feces	1	2	3	4	5	6
<i>Helicobacter rodentium</i>	-	-	-	-	-	-
<i>Helicobacter typhlonius</i>	-	-	-	-	-	-
Specimen: lung	1	2	3	4	5	6
<i>Pneumocystis carinii</i>	-	-	-	-	-	-
Specimen: nasopharyngeal swab	1	2	3	4	5	6
<i>Mycoplasma pulmonis</i>	-	-	-	-	-	-
Specimen: oral swab	1	2	3	4	5	6
<i>Streptobacillus moniliformis</i>	-	-	-	-	-	-

(LEGEND: + = positive - = negative id:id = pooled sample NT or blank = no test performed  
wps = weak positive)

All samples are first tested by the *Helicobacter* spp. PCR assay; 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 subsequently retested on the *Helicobacter* spp. assay and tested with PCR assays specific for *H. bilis*, *H. ganmani*, *H. hepaticus*, *H. rodentium* and *H. typhlonius* and positive results are reported.

**PARASITOLOGY:**

	1	2	3	4	5	6
parasites	-	-	-	-	-	-

**MICROBIOLOGY:**

cecum	1	2	3	4	5	6
<i>Klebsiella oxytoca</i>	-	-	-	-	-	-
<i>Klebsiella pneumoniae</i>	-	-	-	-	-	-
<i>Salmonella enterica</i>	-	-	-	-	-	-
nasopharynx	1	2	3	4	5	6
<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)