

FINAL REPORT OF LABORATORY EXAMINATION

4011 Discovery Drive, Columbia, MO 65201

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

idexx-radil@idexx.com

www.idexxbioresearch.com

IDEXX BioResearch Case # 16221-2015

Received: 6/2/2015  
Completed: 6/10/2015

**Submitted By**

Sentinels  
University of Missouri-RCA  
Columbia, MO 65201

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

**Specimen Description**

Species: mouse  
Description: Live mice  
Number of Specimens/Animals: 5  
Building/Facility: W113

Purchase Order #: DL779

| Client ID | Investigator | Room # | Strain | Sex | Age   | Rack |
|-----------|--------------|--------|--------|-----|-------|------|
| 2         | Bryda        | W113   | CD-1   | F   | Adult | 2    |
| 3         | Bryda        | W113   | CD-1   | F   | Adult | 3    |
| 4         | Bryda        | W113   | CD-1   | F   | Adult | 4    |
| 5         | Bryda        | W113   | CD-1   | F   | Adult | 5    |
| 6         | Bryda        | W113   | CD-1   | F   | Adult | 6    |

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

**General Comments:** CB: Sentinels placed on 03/03/2015

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

## NECROPSY

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

## SEROLOGY SUMMARY

|                                 | 2 | 3 | 4 | 5 | 6 |
|---------------------------------|---|---|---|---|---|
| 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 |

**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                            | 2 | 3 | 4 | 5 | 6 |
|----------------------------------|---|---|---|---|---|
| <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                  | 2 | 3 | 4 | 5 | 6 |
|----------------------------|---|---|---|---|---|
| <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

**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

|           | 2 | 3 | 4 | 5 | 6 |
|-----------|---|---|---|---|---|
| parasites | - | - | - | - | - |

## MICROBIOLOGY

| cecum                        | 2 | 3 | 4 | 5 | 6 |
|------------------------------|---|---|---|---|---|
| <i>Citrobacter rodentium</i> | - | - | - | - | - |
| <i>Klebsiella oxytoca</i>    | - | - | - | - | - |
| <i>Klebsiella pneumoniae</i> | - | - | - | - | - |
| <i>Salmonella enterica</i>   | - | - | - | - | - |

| nasopharynx  | 2 | 3 | 4 | 5 | 6 |
|--|---|---|---|---|---|
| <i>Corynebacterium kutscheri</i>                   | - | - | - | - | - |
| <i>Pasteurella multocida</i>                       | - | - | - | - | - |
| <i>Pasteurella pneumotropica</i>                   | - | - | - | - | - |
| <i>Pasteurella pneumotropica</i><br>biotype Heyl   | - | - | - | - | - |
| <i>Pasteurella pneumotropica</i><br>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

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.idexxbioresearch.com](http://www.idexxbioresearch.com)

IDEXX BioResearch Case # 16221-2015

Received: 6/2/2015

Completed: 6/10/2015

SEROLOGY DETAILS

|                                      | Baseline    | 2 | 3 | 4 | 5 | 6 |
|--------------------------------------|-------------|---|---|---|---|---|
| <b>CAR bacillus</b>                  |             |   |   |   |   |   |
| CAR bacillus purified bacteria       | MFI > 3.750 | - | - | - | - | - |
| <b>Encephalitozoon cuniculi</b>      |             |   |   |   |   |   |
| <i>E. cuniculi</i> purified protozoa | MFI > 1.200 | - | - | - | - | - |
| <b>Ectromelia</b>                    |             |   |   |   |   |   |
| Ectromelia purified virus            | MFI > 1.100 | - | - | - | - | - |
| <b>EDIM</b>                          |             |   |   |   |   |   |
| EDIM purified virus                  | MFI > 4.000 | - | - | - | - | - |
| EDIM VP6 recombinant                 | MFI > 2.500 | - | - | - | - | - |
| <b>LCMV</b>                          |             |   |   |   |   |   |
| LCMV recombinant                     | MFI > 1.000 | - | - | - | - | - |
| <b>LDEV</b>                          |             |   |   |   |   |   |
| LDEV                                 | MFI > 3.250 | - | - | - | - | - |
| <b>Mycoplasma pulmonis</b>           |             |   |   |   |   |   |
| <i>M. pulmonis</i> purified bacteria | MFI > 2.750 | - | - | - | - | - |
| <b>MAV1</b>                          |             |   |   |   |   |   |
| MAV1 purified virus                  | MFI > 3.750 | - | - | - | - | - |
| <b>MAV2</b>                          |             |   |   |   |   |   |
| MAV2 purified virus                  | MFI > 4.275 | - | - | - | - | - |
| <b>MCMV</b>                          |             |   |   |   |   |   |
| MCMV purified virus                  | MFI > 3.500 | - | - | - | - | - |
| <b>MHV</b>                           |             |   |   |   |   |   |
| MHV purified virus                   | MFI > 3.000 | - | - | - | - | - |
| MHV NC recombinant                   | MFI > 4.950 | - | - | - | - | - |
| <b>MNV</b>                           |             |   |   |   |   |   |
| MNV purified virus                   | MFI > 2.500 | - | - | - | - | - |
| MNV VP1 recombinant                  | MFI > 3.750 | - | - | - | - | - |
| <b>MPV</b>                           |             |   |   |   |   |   |
| MPV VP2 recombinant                  | MFI > 2.750 | - | - | - | - | - |

|  | Baseline    | 2 | 3 | 4 | 5 | 6 |
|--|-------------|---|---|---|---|---|
| NS1 <sup>1</sup>                               | MFI > 3.750 | - | - | - | - | - |
| <b>MVM</b>                                     |             |   |   |   |   |   |
| MVM VP2 recombinant                            | MFI > 2.000 | - | - | - | - | - |
| NS1 <sup>1</sup>                               | MFI > 3.750 | - | - | - | - | - |
| <b>Polyoma</b>                                 |             |   |   |   |   |   |
| Polyoma purified virus                         | MFI > 3.750 | - | - | - | - | - |
| <b>PVM</b>                                     |             |   |   |   |   |   |
| PVM purified virus                             | MFI > 2.500 | - | - | - | - | - |
| <b>REO3</b>                                    |             |   |   |   |   |   |
| REO3 purified virus                            | MFI > 4.900 | - | - | - | - | - |
| <b>TMEV</b>                                    |             |   |   |   |   |   |
| TMEV purified virus                            | MFI > 2.250 | - | - | - | - | - |
| RTV purified virus                             | MFI > 2.750 | - | - | - | - | - |
| <b>Sendai</b>                                  |             |   |   |   |   |   |
| Sendai purified virus                          | MFI > 3.000 | - | - | - | - | - |
| <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 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.

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.idexxbioresearch.com](http://www.idexxbioresearch.com)

IDEXX BioResearch Case # 16218-2015

Received: 6/2/2015

Completed: 6/4/2015

**Submitted By**

Sentinels  
University of Missouri-RCA  
Columbia, MO 65201

Phone: 573-884-7970  
Email: [franklinc@missouri.edu](mailto:franklinc@missouri.edu); [bethunec@missouri.edu](mailto:bethunec@missouri.edu);  
[RhoadesJN@missouri.edu](mailto:RhoadesJN@missouri.edu); [watermanjd@missouri.edu](mailto:watermanjd@missouri.edu);  
[valenzuelad@missouri.edu](mailto:valenzuelad@missouri.edu)

**Specimen Description**

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

**Purchase Order #: DL779 and DM413**

| Client ID | Investigator | Room # | Rack |
|-----------|--------------|--------|------|
| A         | Bryda        | W113   | 2-6  |
| B         | Bryda        | W113   | 1    |

**Services/Tests Performed:** Fur Mite

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

**General Comments:** CB: Quarterly fur mite PCR testing.A is mouse, B is rat

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

## PCR EVALUATION

| skin swab               | A | B |
|-------------------------|---|---|
| <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