IDEXX **BioAnalytics**

Health Surveillance Summary Reports
University of Missouri Rat Resource and Research Center

Species: rat

Comments: 01/01/2022-12/31/2022

Room	Test Name	Service	# Positives 2022	# Tested 2022	# Positives Total	# Tested Total
Bacteria, Mycoplasma and Fungi						
W112	Bordetella bronchiseptica	Microbiology	0	7	0	7
W112	Campylobacter coli	PCR	0	1	0	1
W112	Campylobacter jejuni	PCR	0	1	0	1
W112	Campylobacter spp.	PCR	0	1	0	1
W112	CAR bacillus	Serology	0	7	0	7
W112	Clostridium piliforme	Serology	0	7	0	7
W112	Corynebacterium kutscheri	Microbiology	0	7	0	7
W112	Helicobacter bilis	PCR	0	32	0	32
W112	Helicobacter ganmani	PCR	0	32	0	32
W112	Helicobacter hepaticus	PCR	0	32	0	32
W112	Helicobacter mastomyrinus	PCR	0	32	0	32
W112	Helicobacter rodentium	PCR	0	32	0	32
W112	Helicobacter spp.	PCR	0	32	0	32
W112	Helicobacter typhlonius	PCR	0	32	0	32
W112	Klebsiella oxytoca	PCR	0	1	0	1
W112	Klebsiella pneumoniae	PCR	0	1	0	1
W112	Mycoplasma pulmonis	PCR	0	32	0	32
W112	Mycoplasma pulmonis	Serology	0	32	0	32
W112	Pasteurella multocida	Microbiology	0	7	0	7
W112	Pasteurella pneumotropica biotype Heyl	Microbiology	0	31	0	31
W112	Pasteurella pneumotropica biotype Heyl	PCR	0	1	0	1
W112	Pasteurella pneumotropica biotype Jawetz	Microbiology	0	31	0	31
W112	Pasteurella pneumotropica biotype Jawetz	PCR	0	1	0	1
W112	Pneumocystis carinii	Serology	0	32	0	32
W112	Pneumocystis spp.	PCR	0	1	0	1
W112	Proteus mirabilis	PCR	1	1	1	1
W112	Pseudomonas aeruginosa	PCR	0	1	0	1
W112	Salmonella enterica	Microbiology	0	31	0	31
W112	Salmonella enterica	PCR	0	1	0	1
W112	Staphylococcus aureus	PCR	0	1	0	1
W112	Streptobacillus moniliformis	PCR	0	8	0	8
W112	Streptococcus pneumoniae	Microbiology	0	31	0	31
W112	Streptococcus pneumoniae	PCR	0	1	0	1
W112	Streptococcus sp. beta hemolytic Group A	PCR	0	33	0	33
W112	Streptococcus sp. beta hemolytic Group B	PCR	0	33	0	33
W112	Streptococcus sp. beta hemolytic Group C	PCR	0	33	0	33
W112	Streptococcus sp. beta hemolytic Group G	PCR	0	33	0	33
W113	Bordetella bronchiseptica	Microbiology	0	1	0	1
W113	CAR bacillus	Serology	0	1	0	1
W113	Clostridium piliforme	Serology	0	1	0	1

Room	Test Name	Service	# Positives 2022	# Tested 2022	# Positives Total	# Tested Total
W113	Corynebacterium kutscheri	Microbiology	0	1	0	1
W113	Helicobacter bilis	PCR	0	6	0	6
W113	Helicobacter ganmani	PCR	0	6	0	6
W113	Helicobacter hepaticus	PCR	0	6	0	6
W113	Helicobacter mastomyrinus	PCR	0	6	0	6
W113	Helicobacter rodentium	PCR	0	6	0	6
W113	Helicobacter spp.	PCR	0	6	0	6
W113	Helicobacter typhlonius	PCR	0	6	0	6
W113	Mycoplasma pulmonis	PCR	0	6	0	6
W113	Mycoplasma pulmonis	Serology	0	6	0	6
W113	Pasteurella multocida	Microbiology	0	1	0	1
W113	Pasteurella pneumotropica biotype Heyl	Microbiology	0	6	0	6
W113	Pasteurella pneumotropica biotype Jawetz	Microbiology	0	6	0	6
W113	Pneumocystis carinii	Serology	0	6	0	6
W113	Salmonella enterica	Microbiology	0	6	0	6
W113	Streptobacillus moniliformis	PCR	0	1	0	1
W113	Streptococcus pneumoniae	Microbiology	0	6	0	6
W113	Streptococcus sp. beta hemolytic Group A	PCR	0	6	0	6
W113	Streptococcus sp. beta hemolytic Group B	PCR	0	6	0	6
W113	Streptococcus sp. beta hemolytic Group C	PCR	0	6	0	6
W113	Streptococcus sp. beta hemolytic Group G	PCR	0	6	0	6
W114	Bordetella bronchiseptica	Microbiology	0	3	0	3
W114	CAR bacillus	Serology	0	3	0	3
W114	Clostridium piliforme	Serology	0	3	0	3
W114	Corynebacterium kutscheri	Microbiology	0	3	0	3
W114	Helicobacter bilis	PCR	0	12	0	12
W114	Helicobacter ganmani	PCR	0	12	0	12
W114	Helicobacter hepaticus	PCR	0	12	0	12
W114	Helicobacter mastomyrinus	PCR	0	12	0	12
W114	Helicobacter rodentium	PCR	0	12	0	12
W114	Helicobacter spp.	PCR	0	12	0	12
W114	Helicobacter typhlonius	PCR	0	12	0	12
W114	Mycoplasma pulmonis	PCR	0	12	0	12
W114	Mycoplasma pulmonis	Serology	0	12	0	12
W114	Pasteurella multocida	Microbiology	0	3	0	3
W114	Pasteurella pneumotropica biotype Heyl	Microbiology	0	12	0	12
W114	Pasteurella pneumotropica biotype Jawetz	Microbiology	0	12	0	12
W114	Pneumocystis carinii	Serology	0	12	0	12
W114	Salmonella enterica	Microbiology	0	12	0	12
W114	Streptobacillus moniliformis	PCR	0	3	0	3
W114	Streptococcus pneumoniae	Microbiology	0	12	0	12
W114	Streptococcus sp. beta hemolytic Group A	PCR	0	12	0	12
W114	Streptococcus sp. beta hemolytic Group B	PCR	0	12	0	12
W114	Streptococcus sp. beta hemolytic Group C	PCR	0	12	0	12
W114	Streptococcus sp. beta hemolytic Group G	PCR	0	12	0	12
Histology						
W112	alveolar histiocytosis-lung	Histology	1	2	1	2
W112	bile duct hyperplasia-liver	Histology	1	2	1	2
W112	diffuse pancreatitis-mass	Histology	1	1	1	1
W112	EMH-liver	Histology	1	2	1	2
W112	EMH-spleen	Histology	2	2	2	2
W112	focal tubular protein casts-kidney	Histology	2	2	2	2
W112	infiltrates-colon	Histology	2	2	2	2
W112	infiltrates-duodenum	Histology	2	2	2	2
W112	infiltrates-jejunum	Histology	2	2	2	2
W112	infiltrates-stomach	Histology	2	2	2	2
W112	lesions-brain	Histology	0	2	0	2
W112	lesions-heart	Histology	0	2	0	2
W112	lesions-preputial gland	Histology	0	1	0	1
W112	lesions-tongue	Histology	0	2	0	2

Room	Test Name	Service	# Positives 2022	# Tested 2022	# Positives Total	# Tested Total
W112	lesions-urinary bladder	Histology	0	2	0	2
W112	lymphadenitis-lymph node	Histology	2	2	2	2
W112	multifocal pyogranulomatous interstitial pneumonia-lung	Histology	1	2	1	2
W112	proliferative typhlitis-cecum	Histology	2	2	2	2
Parasites and Protozoa						
W112	Aspiculuris tetraptera	Parasitology	0	32	0	32
W112	Aspiculuris tetraptera	PCR	0	8	0	8
W112	Chilomastix sp.	Parasitology	0	32	0	32
W112	Cryptosporidium spp.	PCR	0	1	0	1
W112	Eimeria sp.	Parasitology	0	32	0	32
W112	Encephalitozoon cuniculi	Serology	0	7	0	7
W112	Entamoeba muris	PCR	0	1	0	1
W112	Entamoeba sp.	Parasitology	0	32	0	32
W112	Giardia muris	Parasitology	0	32	0	32
W112	mesostigmatid mites	Parasitology	0	32	0	32
W112	Myobia musculi	Parasitology	0	32	0	32
W112	Myocoptes	PCR	0	9	0	9
W112	Myocoptes musculinus	Parasitology	0	32	0	32
W112	Polyplax spinulosa	Parasitology	0	32	0	32
W112	Radfordia sp.	Parasitology	0	32	0	32
W112	Radfordia/Myobia	PCR	0	9	0	9
W112	Rodentolepis nana	Parasitology	0	32	0	32
W112	Spironucleus muris	Parasitology	0	32	0	32
W112	Syphacia muris	Parasitology	0	32	0	32
W112	Syphacia muris	PCR	0	8	0	8
W112	Syphacia obvelata	PCR	0	8	0	8
W112	trichomonads	Parasitology	0	32	0	32
W113	Aspiculuris tetraptera	Parasitology	0	6	0	6
W113	Aspiculuris tetraptera	PCR	0	4	0	4
W113	Chilomastix sp.	Parasitology	0	6	0	6
W113	Eimeria sp.	Parasitology	0	6	0	6
W113	Encephalitozoon cuniculi	Serology	0	1	0	1
W113	Entamoeba sp.	Parasitology	0	6	0	6
W113	Giardia muris	Parasitology	0	6	0	6
W113	mesostigmatid mites	Parasitology	0	6	0	6
W113	Myobia musculi	Parasitology	0	6	0	6
W113	Myocoptes	PCR	0	4	0	4
W113	Myocoptes musculinus	Parasitology	0	6	0	6
W113	Polyplax spinulosa	Parasitology	0	6	0	6
W113	Radfordia sp.	Parasitology	0	6	0	6
W113	Radfordia/Myobia	PCR	0	4	0	4
W113	Rodentolepis nana	Parasitology	0	6	0	6
W113	Spironucleus muris	Parasitology	0	6	0	6
W113	Syphacia muris	Parasitology	0	6	0	6
W113	Syphacia muris	PCR	0	4	0	4
W113	Syphacia obvelata	PCR	0	4	0	4
W113	trichomonads	Parasitology	0	6	0	6
W114	Aspiculuris tetraptera	Parasitology	0	12	0	12
W114	Aspiculuris tetraptera	PCR	0	4	0	4
W114	Chilomastix sp.	Parasitology	0	12	0	12
W114	Eimeria sp.	Parasitology	0	12	0	12
W114	Encephalitozoon cuniculi	Serology	0	3	0	3
W114	Entamoeba sp.	Parasitology	0	12	0	12
W114	Giardia muris	Parasitology	0	12	0	12
W114	mesostigmatid mites	Parasitology	0	12	0	12
W114	Myobia musculi	Parasitology	0	12	0	12
W114	Myocoptes	PCR	0	4	0	4
W114	Myocoptes musculinus	Parasitology	0	12	0	12
W114	Polyplax spinulosa	Parasitology	0	12	0	12
W114	Radfordia sp.	Parasitology	0	12	0	12

Room	Test Name	Service	# Positives 2022	# Tested 2022	# Positives Total	# Tested Total
W114	Radfordia/Myobia	PCR	0	4	0	4
W114	Rodentolepis nana	Parasitology	0	12	0	12
W114	Spironucleus muris	Parasitology	0	12	0	12
W114	Syphacia muris	Parasitology	0	12	0	12
W114	Syphacia muris	PCR	0	4	0	4
W114	Syphacia obvelata	PCR	0	4	0	4
W114	trichomonads	Parasitology	0	12	0	12
Viruses						
W112	H1	Serology	0	32	0	32
W112	Hantaan	Serology	0	7	0	7
W112	IDIR	Serology	0	7	0	7
W112	KRV	Serology	0	32	0	32
W112	LCMV	Serology	0	32	0	32
W112	MAV1	PCR	0	1	0	1
W112	MAV1	Serology	0	7	0	7
W112	MAV2	PCR	0	1	0	1
W112	MAV2	Serology	0	7	0	7
W112	PVM	Serology	0	32	0	32
W112	Rat polyomavirus 2	PCR	0	1	0	1
W112	Rat polyomavirus 2	Serology	2	5	2*	5
W112	RCV/SDAV	Serology	0	32	0	32
W112	REO3	Serology	0	32	0	32
W112	RMV	Serology	0	32	0	32
W112	RPV	Serology	0	32	0	32
W112	RTV	PCR	0	1	0	1
W112	RTV	Serology	0	32	0	32
W112	Sendai	Serology	0	32	0	32
W112	Seoul	PCR	0	1	0	1
W113	H1	Serology	0	6	0	6
W113	Hantaan	Serology	0	1	0	1
W113	IDIR	Serology	0	1	0	1
W113	KRV	Serology	0	6	0	6
W113	LCMV	Serology	0	6	0	6
W113	MAV1	Serology	0	1	0	1
W113	MAV2	Serology	0	1	0	1
W113	PVM	Serology	0	6	0	6
W113	RCV/SDAV	Serology	0	6	0	6
W113	REO3	Serology	0	6	0	6
W113	RMV	Serology	0	6	0	6
W113	RPV	Serology	0	6	0	6
W113	RTV	Serology	0	6	0	6
W113	Sendai	Serology	0	6	0	6
W114	H1	Serology	0	12	0	12
W114	Hantaan	Serology	0	3	0	3
W114	IDIR	Serology	0	3	0	3
W114	KRV	Serology	0	12	0	12
W114	LCMV	Serology	0	12	0	12
W114	MAV1	Serology	0	3	0	3
W114	MAV2	Serology	0	3	0	3
W114	PVM	Serology	0	12	0	12
W114	RCV/SDAV	Serology	0	12	0	12
W114	REO3	Serology	0	12	0	12
W114	RMV	Serology	0	12	0	12
W114	RPV	Serology	0	12	0	12
W114	RTV	Serology	0	12	0	12
W114	Sendai	Serology	0	12	0	12

*The Rat Resource and Research Center (RRRC) does not routinely monitor its colonies for Rat Polyomavirus 2. In August of 2022, an RRRC client requested testing of rats designated for their facility. Five rats were tested and two were found to have antibodies to this agent. Follow-up PCR testing revealed that those rats were not shedding.

While efforts are underway to further assess our colonies, at this time we must assume that this virus may be present, albeit at a very low incidence. Should you wish to test rats to be shipped to your institution directly by PCR we are happy to do so at your expense.

Of note, this agent has only been associated with disease in severely immunocompromised rats and studies to date have focused on the latter (i.e., there is limited to no information available on infected, immunocompetent or immunovague rats). The window of shedding in immunocompetent rats is also believed to be very narrow.

See the following for additional information.

Rigatti, L. H., Toptan, T., Newsome, J. T., Moore, P. S., & Chang, Y. (2016). Identification and Characterization of Novel Rat Polyomavirus 2 in a Colony of X-SCID Rats by P-PIT assay. *Msphere*, *1*(6), e00334-16.

Besch-Williford, C., Pesavento, P., Hamilton, S., Bauer, B., Kapusinszky, B., Phan, T., ... & Myles, M. (2017). A naturally transmitted epitheliotropic polyomavirus pathogenic in immunodeficient rats: characterization, transmission, and preliminary epidemiologic studies. *Toxicologic Pathology*, *45*(5), 593-603.

Tanaka, M., Kuramochi, M., Nakanishi, S., Kuwamura, M., & Kuramoto, T. (2018). Rat polyomavirus 2 infection in a colony of X-linked severe combined immunodeficiency rats in Japan. *Journal of Veterinary Medical Science*, *80*(9), 1400-1406.