Patient Name	Nick	**Health Status**	Acute infection, blood in urine	**Sample ID**	MI1U9040
Owner's Name	Mays	**Ordered By**	Dr. Engrlshall	**Sample Type**	Cysto(urine collection tube)
Gender	M, Neutered	**Email**	scottsdalevetclinic@gmail.com	**Received Date**	08/19/21
Breed	Labrador Retriever	**Hospital**	NA	**Report Date**	8/25/2021
Age	11 yrs	**Location**	NA		
Species	Canine	**Account Number**	NA		

Potential Clinically Relevant Microbes Detected:

Listed are those bacteria and fungi detected in the specimen that are of potential clinically relevance. Results from this report should be considered together with additional clinical data gathered by the veterinarian (physical examination, medical history, cytology, etc.) as the microbes detected may or may not be the cause of the clinical condition. For a comprehensive list of all microorganisms detected in this specimen see page 3 of this report.
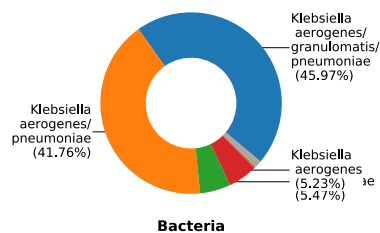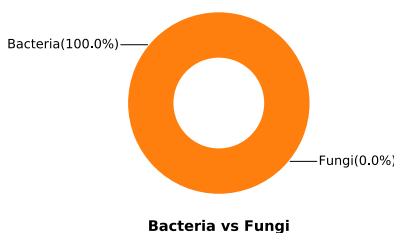
1. Bacteria

Species Detected	Relative Abundance (%)	Cells per sample
Klebsiella aerogenes/granulomatis/pneumoniae [2]	45.97	75000
Klebsiella aerogenes/pneumoniae [2]	41.76	68000
Klebsiella pneumoniae [2]	5.47	9000
Klebsiella aerogenes [2]	5.23	8600

2. Fungi

None Detected

Microbial Overview:

Charts below depict *Bacteria vs Fungi:* an overview of the microbiome, *Bacteria:* the relative abundance of all clinically relevant species detected relative to the rest of the microbiome for bacteria, and *Fungi:* the relative abundance of all clinically relevant species detected relative to the rest of the microbiome for fungi. Each color represents a different species. The larger the size of the colored segment, the more abundant that specific species is in the specimen. The purpose of these graphs is to highlight if any clinically relevant organism is overgrown in the sample.

Bacteria(100.0%) · Fungi(0.0%)

Bacteria vs Fungi

Klebsiella aerogenes/granulomatis/pneumoniae (45.97%)
Klebsiella aerogenes/pneumoniae (41.76%)
Klebsiella aerogenes (5.23%)
(5.47%)

Bacteria

Antibiotic Resistance Panel for Detected Clinically Relevant Microbes

The sample was screened for the presence of antibiotic resistance genes and intrinsic resistances of clinically relevant microorganisms. We recommend the cautious use of any antibiotic drug and to follow the guidelines for antimicrobial stewardship in veterinary practice.

Antibiotics	*Klebsiella aerogenes* (5.23%)	*Klebsiella pneumoniae* (5.47%)	Suggested Dose	Drug Delivery
Ampicillin	R	R		
Amoxicillin	R	R		
Oxacillin	R	R		
Benzylpenicillin	R	R		
Cefadroxil	R	R		
Cefazolin	R	R		
Cefpodoxime	R	R		
Ceftiofur	R	R		
Cephalexin	R	R		
Cefovecin	R	R		
Cefoxitin	ND	ND	15 mg/kg, q 12hrs	IV, SC
Enrofloxacin	ND	ND	5 mg/kg, q 24hrs	PO
Marbofloxacin	ND	ND	2.75 mg/kg, q 24hrs	PO
Ciprofloxacin	ND	ND	--	--
Pradofloxacin	ND	ND	--	--
Clindamycin	IR	IR		
Lincomycin	ND	ND	--	--
Erythromycin	IR	IR		
Azithromycin	IR	IR		
Sulfonamide	ND	ND	30 mg/kg, q 12hrs	PO
Doxycycline	ND	ND	5 mg/kg, q 12hrs	PO
Tetracycline	ND	ND	20 mg/kg, q 12hrs	PO
Minocycline	ND	ND	--	--
Neomycin	ND	ND	Topical use	Topical use
Amikacin	ND	ND	15 mg/kg, q 24hrs	IV, SC
Gentamicin	ND	ND	6 mg/kg, q 24hrs	IV, SC
Clavamox	ND	ND	13.75 mg/kg, q 12hrs	PO
Timentin	ND	ND	Topical use	Topical use
Ceftazadime	R	R		
Florfenicol	ND	ND	--	--
Chloramphenicol	ND	ND	35 mg/kg q 8 hrs	PO
Imipenem	R	R		
Mupirocin	ND	ND	Topical use	Topical use
Rifampicin	IR	IR		

This table lists antibiotic sensitivities/resistances for the indicated bacteria based on detection of specific antibiotic resistance genes and naturally occurring, or intrinsic, resistance to specific antibiotics previously identified for that organism. To receive a list of the antibiotic resistance genes detected as well as intrinsic resistances for additional organisms not listed here, please contact MiDOG® customer support.

Abbreviation Key:
ND = Not Detected. According to our test the organism is most likely sensitive to this antibiotic. No antibiotic resistance gene or intrinsic resistance was detected.
R = Resistance. An Antibiotic resistance gene for the indicated antibiotic was detected and the organism is likely resistant to the suggested dose.
IR = Intrinsic Resistance. No resistance genes are detected or available for testing, would not recommend this antibiotic due to likely resistant to the indicated antibiotic based on intrinsic factors inferred from microbiological and clinical literature.
PO = Oral. By Mouth.
IV = Intravenous Injection. Injections involving direct injection into the vein.
SC = Subcutaneous Injection. The medication delivered to the tissues between the skin and the muscle.
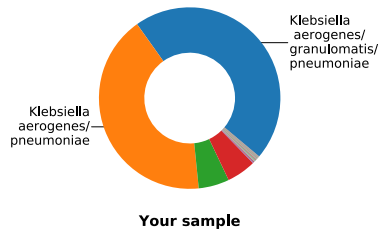
Supplemental Data on Microbial Composition

Bacterial Analysis

Charts below depict the relative abundance of all detected bacterial species. Each color represents a different bacterial species. The larger the size of the colored segment, the more abundant that specific species is in the specimen.

Your sample

The table below lists all bacterial species detected in the specimen within the limit of detection. The absolute and relative abundances of each species is shown.

Species Detected	Relative Abundance (%)	Cells per sample
Klebsiella aerogenes/granulomatis/pneumoniae	45.97	75000
Klebsiella aerogenes/pneumoniae	41.76	68000
Klebsiella pneumoniae	5.47	9000
Klebsiella aerogenes	5.23	8600

Fungal Analysis

No fungal species detected. Please Note: It is common to see no fungal load in healthy urine samples. For more information see the Methods Section under: 'When no Bacterial or Fungal Species are Detected'

References

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3. Pierezan, F., Olivry, T., Paps, J. S., Lawhon, S. D., Wu, J., Steiner, J. M., et al. The skin microbiome in allergen-induced canine atopic dermatitis. (2016) Veterinary Dermatology, 27(5):332-e82

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6. Sack, J., Peaper, D. R., Mistry, P., & Malinis, M. (2017). Clinical implications of Paracoccus yeeii bacteremia in a patient with decompensated cirrhosis.IDCases,7, 9-10.

7. Rodrigues Hoffmann A, Patterson AP, Diesel A et al. The skin microbiome in healthy and allergic dogs. (2014) PLoS One, 9: e8197

Method

The MiDOG® All-in-One Microbial Test is a targeted, Next-generation DNA sequencing testing service able to identify molecular signatures unique to the identity and character of a specific microorganism. This test relies on safeguarded preservation and transport of collected samples, thorough extraction of DNA from all microbes present in the specimen, select amplification of microbial DNA followed by Next-generation DNA sequencing using the latest technologies from Illumina (Illumina, Inc., San Diego, CA). Data handling is done via curated microbial databases to accurately align DNA sequences to ensure precise and accurate (species-level) identification of all bacteria and fungi present in the specimen.

When no Bacterial or Fungal Species are Detected

When no bacterial or fungal species are detected in this test, this result may be due to a very low microbial load and/or low concentration of microbial DNA in the sample provided. In this case, we recommend re-sampling the area of interest and re-submitting specimen for analysis.

Disclaimer

The information contained in this MiDOG® report is intended only to be factor for use in a diagnosis and treatment regime for the canine patient. As with any diagnosis or treatment regime, you should use clinical discretion with each canine patient based on a complete evaluation of the canine patient, including history, physical presentation and complete laboratory data, including confirmatory tests. All test results should be evaluated in the context of the patients individual clinical presentation. The information in the MiDOG® report has not been evaluated by the FDA.

Customer Support

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