

PCR MOLECULAR REPORT

Patient:	TEST, PATIENT	MRN:	86537	Accession:	219905
Patient #:	86537	Birth:	1/17/1998	Collection Date:	2/22/2023 12:00 AM
Doctor:	Patient, Doctor	Age:	25 years	Received Date:	2/22/2023 8:19 AM HP
Home Phone:	3141234567	Gender:	Male		
Location:	Demo Location - DEMO				
				Barcode No.	GS1111112
				Specimen Source	Nasopharyngeal Swab

For SARS-CoV-2 Testing (RT-PCR)

COVID-19	Result
SARS CoV 2	Negative

Notes: * Please reference your local state department of health reporting requirements for COVID-19 testing results.
**This test has been validated by TEN Healthcare but the FDA's independent review of this validation is pending.

For Upper Respiratory Infection

Pathogen	Result	CFU/mL or PFU/mL*	% of Pathogen
Bacterial Pathogens (CFU) <i>Run by HP on 2/22/2023 8:26:09 AM at Location: TH</i>			
Haemophilus influenzae	Positive	9.85×10 ³	5.594%
Klebsiella pneumoniae	Positive	1.23×10 ³	0.699%
Staphylococcus aureus	Positive	1.58×10 ⁵	89.51%
Fungal Pathogens (CFU) <i>Run by HP on 2/22/2023 8:26:09 AM at Location: TH</i>			
Viral Pathogens (PFU) <i>Run by HP on 2/22/2023 8:26:09 AM at Location: TH</i>			
Epstein Barr virus (EBV/HHV4)	Positive	4.92×10 ³	2.797%
Human herpesvirus 6 (HHV6)	Positive	2.46×10 ³	1.399%

If there are no positive or negative results reported in the "Result" field above, this indicates an all negative report.

* The CFU/mL (for bacteria) or PFU/mL (for viruses) is calculated based on the difference between the cycle threshold value of the lower limit of detection and the actual cycle threshold value for a given pathogen from a patient sample. TEN Healthcare provides semiquantitative values because the polymerase chain reaction amplifies nucleic acids irrespective of the biological status of the pathogen.

POSITIVE PATHOGENS - AVAILABLE ANTIBIOTICS

Haemophilus influenzae

Amoxicillin: 500mg PO every 8 hours or 875mg PO every 12 hours (Rhinosinusitis); 1g PO three times daily (Pneumonia); (Avoid in penicillin allergy. GI side effects are most common. Pregnancy category B.)
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Cefdinir: 300mg PO twice daily or 600mg PO once daily (3rd generation cephalosporin; can be used in penicillin allergy. Heightened risk of C diff compared to other cephalosporins. Diarrhea and rash most common side effects.)
Amoxicillin-Clavulanate: 500/125mg PO every 8 hours or 875/125mg every 12 hours (Avoid in severe penicillin allergy. Diarrhea common due to clavulanate component.)
Levofloxacin: 500-750mg PO daily (Pregnancy category C. Liver toxicity, tendon rupture rare but more likely in presence of corticosteroids. Avoid in myasthenia gravis.)
Lefamulin: 600mg PO every 12 hours (Generally well-tolerated; available PO and IV. Diarrhea most common side effect.)

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Klebsiella pneumoniae

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Cefpodoxime (Consider consultation with pharmacist)
Trimethoprim-Sulfamethoxazole: 1 DS tablet twice daily (Dose adjustment required for CrCl < 30ml/min. Caution in patients with folate deficiency (elderly, chronic alcohol use, receiving anticonvulsant therapy). Significant drug interactions with warfarin, phenytoin, and methotrexate. Pregnancy category C.)
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Ertapenem: 1g IM/IV as single dose, followed by course of appropriate oral therapy (Consider for high risk or systemically ill patients, complicated infection, and/or when multidrug resistant gram negative bacteria are present.)
Gentamicin: Consider consultation with pharmacist
Tobramycin: Consider consultation with pharmacist

Staphylococcus aureus

Amoxicillin: 500mg PO every 8 hours or 875mg PO every 12 hours (Rhinosinusitis), 1g PO three times daily (Pneumonia); (Avoid in penicillin allergy. GI side effects are most common. Pregnancy category B.)
Cephalexin: 500mg PO twice daily (Avoid in severe penicillin allergy and mild-moderate amoxicillin allergy, specifically (identical side chain). Pregnancy category B.)
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Delafoxacin: Consider consultation with pharmacist
Lefamulin: 600mg PO every 12 hours (Generally well-tolerated; available PO and IV. Diarrhea most common side effect.)
Linezolid: Consider consultation with pharmacist
Vancomycin: Consider consultation with pharmacist
Tedizolid: Consider consultation with pharmacist
Ceftaroline: Consider consultation with pharmacist

Antibiotic Resistance Markers by Gene

Antibiotic Resistant Genes	Result
ErmB1 (Macrolide Lincosamide Streptogramin resistance)	Positive
mefA (Macrolide Lincosamide Streptogramin resistance)	Positive
TetM1 (Tetracycline resistance)	Positive

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DISCLAIMERS:

For additional questions or consultation regarding the Antibiotic Resistance Panel, please call Pharmacotherapy Solutions, LLC at PH: (314)-649-9512 or email at PCRPharmD@gmail.com.

For PCR Molecular Testing:

1. This test detects the presence of pathogen and must be evaluated with clinical symptoms to diagnose a disease. All PCR tests established and validated by the laboratory are not FDA approved. The standards for validation exceed FDA requirements.
2. The detection of viral and bacterial nucleic acid is dependent upon proper specimen collection, handling, transportation, storage and preparation. Failure to observe proper procedures in any one of these steps can lead to incorrect results.
3. Use of any medications in pregnancy should be dictated by potential risks vs. benefits and clinical judgement should be practiced for prescribing to women who are pregnant or may become pregnant.
4. Pharmacist consultations on appropriate antibiotic treatment along with recommendations made at the discretion of the physician based on known interaction is recommended.

TEN Healthcare contracts with Pharmacotherapy Solutions, LLC to provide antibiotic treatment recommendations. Recommendations are based solely on the pathogen and resistance results shown above, which represent a snapshot of the patient's microbiota. Dosages shown are based on FDA approved regimens and should serve as a frame of reference only. Additional patient factors must be considered before prescribing treatment, including but not limited to: age, allergies, comorbidities, potential drug interactions, renal/hepatic function, and cost.

For Clinical Blood Testing:

1. The quantitation of blood chemistry is dependent upon proper specimen collection, handling, transportation, storage and preparation. Failure to observe proper procedures in any one of these steps can lead to incorrect results.

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SARS CoV 2	Negative

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For Upper Respiratory Infection

Pathogen	Result	CFU/mL or PFU/mL*	% of Pathogen
Bacterial Pathogens (CFU) <i>Run by HP on 2/22/2023 8:26:09 AM at Location: TH</i>			
Bordetella Panel (B.pertussis+B.bronchiseptica+B.parapertussis)	Negative		
Bordetella pertussis	Negative		
Bordetella holmesii	Negative		
Chlamydia pneumoniae	Negative		
Coxiella burnetii	Negative		
Haemophilus influenzae	Positive	9.85×10 ³	5.594%
Klebsiella pneumoniae	Positive	1.23×10 ³	0.699%
Legionella pneumophila	Negative		
Moraxella catarrhalis	Negative		
Mycoplasma pneumoniae	Negative		
Staphylococcus aureus	Positive	1.58×10 ⁵	89.51%
Streptococcus pneumoniae	Negative		
Streptococcus pyogenes	Negative		
Fungal Pathogens (CFU) <i>Run by HP on 2/22/2023 8:26:09 AM at Location: TH</i>			
Pneumocystis jirovecii	Negative		
Viral Pathogens (PFU) <i>Run by HP on 2/22/2023 8:26:09 AM at Location: TH</i>			
Adenoviruses #1	Negative		
Adenoviruses #2	Negative		
Cytomegalovirus (CMV/HHV5)	Negative		
Epstein Barr virus (EBV/HHV4)	Positive	4.92×10 ³	2.797%
Human Bocavirus	Negative		
Human Coronavirus 229E	Negative		
Human Coronavirus HKU1	Negative		
Human Coronavirus NL63	Negative		
Human Coronavirus OC43	Negative		
Human Enteroviruses Panel	Negative		
Human Enteroviruses_D68	Negative		
Human herpesvirus 6 (HHV6)	Positive	2.46×10 ³	1.399%
Human metapneumovirus	Negative		
Human Parainfluenza virus 1	Negative		
Human Parainfluenza virus 2	Negative		
Human Parainfluenza virus 3	Negative		

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For Upper Respiratory Infection

Pathogen	Result	CFU/mL or PFU/mL*	% of Pathogen
Human Parainfluenza virus 4	Negative		
Human Parechovirus	Negative		
Human Respiratory syncytial virus A	Negative		
Human Respiratory syncytial virus B	Negative		
Human Rhinoviruses #1	Negative		
Human Rhinoviruses #2	Negative		
Influenza A virus Panel (H1 and H3)	Negative		
Influenza A virus H1 2009	Negative		
Influenza A virus H3	Negative		
Influenza B virus	Negative		
Measles Virus	Negative		
Middle Eastern Respiratory Syndrome (MERS)	Negative		
Mumps virus	Negative		
Severe Acute Respiratory Syndrome Coronavirus (SARS)	Negative		
Varicella zoster virus (VZV/HHV3)	Negative		

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Antibiotic Resistance Markers by Gene

Antibiotic Resistant Genes	Result
VanA1 (Vancomycin resistance)	Negative
VanA2 (Vancomycin resistance)	Negative
VanB1 (Vancomycin resistance)	Negative
MecA1 (Methicillin resistance)	Negative
ermA (Macrolide Lincosamide Streptogramin resistance)	Negative
ErmB1 (Macrolide Lincosamide Streptogramin resistance)	Positive
ermC (Macrolide Lincosamide Streptogramin resistance)	Negative
mefA (Macrolide Lincosamide Streptogramin resistance)	Positive
qnrA2 (Fluoroquinolone resistance)	Negative
qnrB (Fluoroquinolone resistance)	Negative

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Antibiotic Resistance Markers by Gene

Antibiotic Resistant Genes	Result
TetM1 (Tetracycline resistance)	Positive
ACT/MIR (AmpC beta lactamase resistance)	Negative
FOX (AmpC beta lactamase resistance)	Negative
IMP1 (Class B metallo beta lactamase resistance)	Negative
IMP2 (Class B metallo beta lactamase resistance)	Negative
KPC2 (Class A beta lactamase resistance)	Negative
NDM 1 (Class B metallo beta lactamase resistance)	Negative
SHV2 (Class A beta Lactamases)	Negative
VIM 1 (Class B metallo beta lactamase resistance)	Negative
ACC 4 (AmpC beta lactamase resistance)	Negative
OXA 48 (Class D Oxacillinase resistance)	Negative
OXA 51 (Class D Oxacillinase resistance)	Negative
PER 1 (Minor Extended Spectrum beta lactamases resistance)	Negative
VEB 1 (Minor Extended Spectrum beta lactamases resistance)	Negative
GES-1 (Minor Extended Spectrum beta lactamases resistance)	Negative
dfr A1 (Trimethoprim/Sulfamethoxazole resistance)	Negative
dfr A5 (Trimethoprim/Sulfamethoxazole resistance)	Negative
sul1 (Trimethoprim/Sulfamethoxazole resistance)	Negative
sul2 (Trimethoprim/Sulfamethoxazole resistance)	Negative
CTX M1 (Class A beta lactamase resistance)	Negative
CTX M9a (Class A beta lactamase resistance)	Negative
CTX M2 (Class A beta lactamase resistance)	Negative
CTX M8/M25 (Class A beta lactamase resistance)	Negative
ampC/CMY2 (Ampicillin resistance)	Negative
BIL/LAT/CMY (beta lactamase resistance)	Negative
MecC1 (Methicillin resistance)	Negative
blaSHV 5 (Class A beta Lactamases)	Negative
MCR-1 (mobilized colistin resistance, extended beta Lactamases)	Negative
CFR23S (Chloramphenicol florfenicol resistance)	Negative
TetS1 (Tetracycline resistance)	Negative
CMY/MOX (beta lactamase resistance)	Negative

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