RSM DIAGNOSTICS LAB

Total GI

COMPREHENSIVE STOOL PROFILE

Patient name	: John Doe
Date of Birth	: 08/24/1974
Gender	: Male
Patient ID	:
Phone	:

Sample Information

Specimen Type	:	Stool
Sample Collected	:	
Sample Received	:	
Date Reported	:	
Order #	:	

Reference Physician

Name	:
Phone	:
Fax. no.	:
e-mail	:

Summary

Patient name : John Doe
Date of Birth : 08/24/1974

Pathogens Detected by **Multiplex PCR**

Pathogenic Bacteria
Klebsiella pneumoniae, oxytoca

Antibiotic Resistance genes
ErmA antibiotic resistance gene
Sulfamethoxazole 1 (Sul1) resistance
Quinolone A resistance

Parasites Detected by **Microscopy**

No Parasites Detected.

Abnormalities in Stool Examination

Macroscopic Appearance	Result	
COLOR	YELLOW	●

● Represents Abnormal Microscopic And Macroscopic Appearance

Elevated Digestive Markers - **EIA**

Test Name	Result	
Fecal Pancreatic Elastase*	150	↓
Fecal Secretory IgA*	390	↓

↑ Represents elevated level from the reference range

↓ Represents lessened level from the reference range

Pathogens Detected by **Culture**

Pathogens	Result	
Candida albicans	+3	

 Shows microbial growth by quadrant streak method

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CLIA ID: 08D2253750

Stool Examination

Patient name : John Doe
Date of Birth : 08/24/1974

Macroscopic

Macroscopic Appearance	Result	Flag	Reference Interval
COLOR	YELLOW	◉	BROWN
CONSISTENCY	SOFT	-	SOFT
pH	6	-	5.8-7.0
OCCULT BLOOD	NEGATIVE	-	NEGATIVE
MUCUS	NEGATIVE	-	NEGATIVE

Microscopic

Microscopic Appearance	Result	Flag	Reference Interval
WBC	NEGATIVE	-	NEGATIVE
RBC	NEGATIVE	-	NEGATIVE
CHARCOT-LEYDEN CRYSTALS	NEGATIVE	-	NEGATIVE
FAT STAIN	NEGATIVE	-	NEGATIVE
KOH FOR YEAST	NONE	-	RARE: 1-2 PER SLIDE FEW: 2-5 PER MODERATE: 5-10 PER HPF MANY: >10 PER HPF HIGH POWER FIELD (HPF)

COLOR: Brown is the typical color of regular stool, while deviations in color may suggest abnormal gastrointestinal conditions.

CONSISTENCY: A formed stool is considered normal. Variations to this may indicate abnormal gastrointestinal tract conditions.

MUCOUS: Mucous production may indicate the presence of an infection, inflammation, or malignancy.

BLOOD: The presence of blood in the stool may indicate a possible gastrointestinal tract ulcer and must always be investigated immediately

FECAL FAT: Fecal fat or steatorrhea is indicative of malabsorption in the digestive system. Conditions such as pancreatic insufficiency, celiac disease, Crohn's disease, and other disorders.

Intestinal Markers

Patient name : John Doe
Date of Birth : 08/24/1974

Test Name	Result	Flag	Reference Interval
Fecal Calprotectin*	20	-	<173 ug/ml
Fecal Pancreatic Elastase*	150	↓	>200 ng/ml
Fecal Anti-Gliadin IgA*	9	-	<120 U/L
Fecal Secretory IgA*	390	↓	510-2040 ug/mL
Fecal Zonulin *	3	-	0.25 - 64.00 ng/mL

↑ Represents elevated level from the reference range

↓ Represents lessened level from the reference range

* This research uses only tests that were developed, and its performance characteristics are determined by RSM Diagnostics. It has not been cleared or approved by the Food and Drug Administration.

GI Pathogens - Multiplex PCR

Patient name : John Doe
Date of Birth : 08/24/1974

Commensal Bacteria

Bacteria	Result		Range
Akkermansia muciniphila	ND		1E3-1E12
Bacteroides fragilis	1E5	L	1E3-1E12
Enterococcus faecalis	ND		1E3-1E12
Enterococcus faecium	ND		1E3-1E12
Fusobacterium	2E5		1E3-1E12
Faecalibacterium prausnitzii	ND		1E3-1E12
Bifidobacterium spp.	2E5		1E3-1E12
Clostridial spp.	2E5		1E3-1E12
Lactobacillus spp.	2E5		1E3-1E12

- The results are shown using scientific notation, where the letter “E” represents the exponent (e.g., 1.2E6 means 1.2×10^6 or 1,200,000). The bar graph displays values from 1E3 to 1E12, which is the test's detection range.
- “ND” means the pathogen is not detected and is shown as a gray-shaded area with No Indicator. “<DL” means the pathogen is present but below the detection limit; in this case, the indicator points to the start of the graph (1E3) without any color change.
- The bar graph also uses colors to show levels of commensal bacteria: yellow for low and green for high where result value is >=1E3 to <=1E5 represents LOW and value>1E5<=1E12 represents HIGH.

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GI Pathogens - Multiplex PCR

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Viruses

Viruses	Result
Enterovirus	Not Detected
Human adenovirus (HAdV)	Not Detected
Human astrovirus (HAtV)	Not Detected
Human norovirus (HNoV) G1	Not Detected
Human norovirus (HNoV) G2	Not Detected
Human rotavirus (HRTV)	Not Detected
Human sapovirus (HSaV)	Not Detected

GI Pathogens - Multiplex PCR

Patient name : John Doe
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Pathogenic Bacteria

Bacteria	Result		Range
Acinetobacter baumannii	Not Detected		<1E3
Campylobacter	Not Detected		<1E3
Citrobacter freundii	Not Detected		<1E3
Citrobacter koseri	Not Detected		<1E3
Clostridium difficile	Not Detected		<1E3
Clostridium perfringens	Not Detected		<1E3
Chlamydia trachomatis	Not Detected		<1E3
Enterohemorragic/verotoxin producing Escherichia coli (EHEC)	Not Detected		<1E3
Enteroinvasive Escherichia coli (EIEC)	Not Detected		<1E3
Helicobacter pylori	Not Detected		<1E3
Klebsiella pneumoniae, oxytoca	2E5	▲ High	<1E3
Morganella morganii	Not Detected		<1E3
Mycoplasma pneumonia	Not Detected		<1E3
Proteus mirabilis	Not Detected		<1E3
Proteus vulgaris	Not Detected		<1E3
Pseudomonas aeruginosa	Not Detected		<1E3
Salmonella enterica	Not Detected		<1E3
Shiga-like Toxin E. coli stx1	Not Detected		<1E3
Shiga-like Toxin E. coli stx2	Not Detected		<1E3

GI Pathogens - Multiplex PCR

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Pathogenic Bacteria

Bacteria	Result	Range
Staphylococcus aureus	Not Detected	<1E3
Streptococcus agalactiae (group B)	Not Detected	<1E3
Streptococcus pneumoniae	Not Detected	<1E3
Streptococcus pyogenes	Not Detected	<1E3
Yersinia enterocolitica	Not Detected	<1E3

Fungus

Fungus	Result	Range
Candida (pan-Candida)	Not Detected	<1E3
Candida albicans	Not Detected	<1E3
Candida glabrata	Not Detected	<1E3

Parasites

Parasites	Result	Range
Cryptosporidium	Not Detected	<1E3
Entamoeba histolytica	Not Detected	<1E3
Giardia lamblia	Not Detected	<1E3

GI Pathogens - Multiplex PCR

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Antibiotic Resistance Genes

Antibiotic Resistance Genes	Result
β - Lactams	
ACT-1/3/2/34	Not Detected
ampC	Not Detected
CTX-M 1	Not Detected
CTX-M 2	Not Detected
CTX-M 8	Not Detected
CTX-M 9	Not Detected
FOX-17	Not Detected
IMP-1 metallo- β-lactamase	Not Detected
IMP-2 metallo- β-lactamase	Not Detected
Metallo-β-Lactamase VIM-1	Not Detected
Metallo-β-Lactamase VIM-2	Not Detected
New Delhi metallo-β-Lactamase 1 NDM-1	Not Detected
OXA-1	Not Detected
OXA-48	Not Detected
SHV Extended-Spectrum	Not Detected
Klebsiella pneumoniae carbapenemase (KPC)	Not Detected
Macrolides	
ErmA antibiotic resistance gene	Detected
ErmB antibiotic resistance gene	Not Detected
ErmC antibiotic resistance gene	Not Detected

GI Pathogens - Multiplex PCR

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Antibiotic Resistance Genes

Antibiotic Resistance Genes	Result
Fluoroquinoiones	
Quinolone A resistance	Detected
Quinolone B resistance	Not Detected
Vancomycin	
Vancomycin AB (VanAB) resistance	Not Detected
Sulfonamides	
Sulfamethoxazole 1 (Sul1) resistance	Detected
Sulfamethoxazole 2 (Sul2) resistance	Not Detected
Methicillin	
Methicillin-resistant Staphylococcus aureus (mecA)	Not Detected
Trimethoprim	
dfrA1	Not Detected
dfrA5	Not Detected
Tetracycline	
Tetracycline B (TetB) resistance	Not Detected
Tetracycline M (TetM) resistance	Not Detected

GI Parasitology - Microscopic

Patient name : John Doe
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Cyst

Parasites	Result
Acanthamoeba polyphaga cyst	—
Cryptosporidiu (Oocyst)	—
Dientamoeba fragilis Cyst	—
Entamoeba coli (cyst 7 trophozoite)	—
Entamoeba coli cyst	—
Entamoeba histolytica cyst	—
Entamoeba nana cyst	—
Giardia lamblia cyst	—
Gongylonemia pulchrum	—
Isospora belli sporocyst	—
Toxoplasma gondii oocyst	—

Ova

Ova	Result
Ascaris lumbricodes ova	—
Capillaria hepatica ova	—
Diphyllobothrium latum ova	—
Entamoeba hortense ova	—

⚠ Detected — Not Detected

GI Parasitology - Microscopic

Patient name : John Doe
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Ova

Ova	Result
Entamoeba pancreaticum ova	—
Enterobius vermicularids ova	—
Faciola hepatica ova	—
Faciolopsis buski ova	—
Hookworm ova	—
Hymenolepis diminuta ova	—
Hymenolepis nana ova	—
Giardia lamblia	—
Iodamoeba buetschlii	—
Metagonimus yokogawai ova	—
Opisthorchis viverrini ova	—
Schistosoma japanicum ova	—
Schistosoma mansoni ova	—
Taenia ova	—
Theileria orientalis ova	—
Trichuris trichiura ova	—

⚠ Detected — Not Detected

GI Parasitology - Microscopic

Patient name : John Doe
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Parasite

Parasite	Result
Acanthamoeba trophozoite	—
Balantidium coli	—
Blastocystis hominis	—
Capillaria philippinensis	—
Chilomastix mesnili	—
Chylomastix hominis	—
Chylomastix mednili	—
Clonorchis sinensis	—
Cryptosporidium sp.	—
Cyclospora cayetanensis	—
Cystoisospora spp.	—
Dientamoeba fragilis troph	—
Diphyllobothrium latum	—

⚠ Detected — Not Detected

GI Parasitology - Microscopic

Patient name : John Doe
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Parasite

Parasite	Result
Dipylidium caninum	—
Endolimax nana	—
Entamoeba Cell	—
Entamoeba Cell Trophozoite	—
Entamoeba histolytica	—
Enterobius vermicularis	—
Giardia lamblia	—
Iodamoeba buetschlii	—
Isospora	—
Metagonimus yokogawai	—
Paragonimus spp.	—
Sarcocystis	—
Strongyloides stercoralis	—
Theileria orientalis	—
Toxoplasma gondii	—
Trichinella spiralis	—
Trichomonads	—
Trichomonas vaginalis	—

⚠ Detected — Not Detected

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Bacteriology Culture & Sensitivity

Patient name : John Doe
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Beneficial Flora

Microbes	Result	Growth
Bacteroides family	+4	
Bifidobacterium family	+4	
Clostridial Family	+4	
Lactobacillus family	+4	

Bacteriology Culture

Pathogens Detected	Result	Growth
No Growth	NG	

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Mycology Culture & Sensitivity

Patient name : John Doe
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Fungal Culture

Pathogens Detected	Result	Growth
Candida albicans	+3	

Antifungal Sensitivity

Antifungals	Isolate	
AMPHOTERICIN-B	Resistant	
CLOTRIMAZOLE	Resistant	
FLUCONAZOLE	Resistant	
ITRACONAZOLE	Resistant	
KETOCONAZOLE	Resistant	
NYSTATIN	Resistant	
VORICONAZOLE	Resistant	

 Shows microbial growth by quadrant streak method

 Represents the antifungal is sensitive against the microbes

 Represents the antifungal is Resistant against the microbes

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Mycology Culture & Sensitivity

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Fungal Natural Agent Sensitivity

Natural Agents	Inhibition
Alchornea	High
Argentyn silver	Low
Clove	Low
Cryptolepis	No
Caprylic Acid	No
Garlic	No
Juniper	No
Oil of Oregano	High
Oregon Grape	Low
Red Root	No
Stevia	No
Uva Ursi	No

In this assay, inhibition is defined as the reduction level on organism growth as a direct result of inhibition by a substance. The level of inhibition is an indicator of how effective the substance was at limiting the growth of an organism in an in vitro environment. High inhibition indicates a greater ability by the substance to limit growth, while Low Inhibition a lesser ability to limit growth. The designated natural products should be considered investigational in nature and not be viewed as standard clinical treatment substances

Intestinal Markers

Calprotectin

- Calprotectin is a protein found in white blood cells, particularly in neutrophils. Calprotectin becomes available in the intestinal lumen via leukocyte shedding, active secretion, cell disturbance, and cell death. Elevated levels of calprotectin in stool samples can indicate inflammation in the intestines. Fecal calprotectin is associated with conditions such as inflammatory bowel disease (IBD).

Pancreatic Elastase

- Elastase is an enzyme produced by the pancreas that helps break down proteins, fats and carbohydrates. It plays a crucial role in the digestion process by breaking down dietary proteins into smaller peptides and amino acids, which can be absorbed by the body.
- Low levels of elastase in the stool may suggest pancreatic insufficiency. Testing for elastase levels in stool samples is a non-invasive method to assess pancreatic function.

Anti Gliadin Antibodies

- Anti Gliadin antibodies directed against gliadin, a component of gluten found in wheat and other related grains such as barley and rye. These antibodies are relevant in the context of gluten-related disorders, particularly celiac disease. May indicate an immune response to gluten, but not specific to celiac disease. If positive further testing is advised.

Secretary IgA

- Secretory IgA (sIgA) is a type of immunoglobulin A that plays a critical role in the immune function of mucosal membranes. sIgA is predominantly found in mucosal secretions such as saliva, tears, colostrum, and gastrointestinal, respiratory, and urogenital tracts. It is the first line of defense against pathogens.
- sIgA protects against infections in the mucosal surface, Low levels of sIgA are associated with increased susceptibility to infections in the GI tract.
- Measurement of sIgA levels can be useful in diagnosing certain immunodeficiencies and monitoring mucosal immunity

Zonulin

- Zonulin is a protein that plays a critical role in regulating intestinal permeability. It is involved in the modulation of tight junctions between the cells lining the intestinal wall.
- Elevated zonulin levels can indicate increased gut permeability, which may lead further investigation and management of underlying conditions. Elevated zonulin may be associated with autoimmune disease, inflammatory bowel disease, celiac disease, and metabolic disease.
- Zonulin release may be triggered by bacteria, gluten and certain dietary compounds.

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RSM DIAGNOSTICS LAB

TOTAL GI

COMPREHENSIVE STOOL PROFILE

Disclaimer

The assays are lab developed tests and/or the performance characteristics determined by RSM Diagnostics Lab. RSM Diagnostics Lab is a CLIA approved lab All laboratory test results should be interpreted by a healthcare professional who can integrate these results with clinical symptoms, medical history, and other diagnostic tests. Self – diagnosis and treatment based on lab test results alone can be harmful.

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RSM DIAGNOSTICS LAB

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