

Lab ID
Patient ID PAT-100009
Ext ID 25283-0036

Sex: Male • 45yrs • 01-Jan-80
123 Home Street, Test Suburb Vic 3125

RECEIVED
10-Oct-25

Specimen type - Stool

05-Oct-25

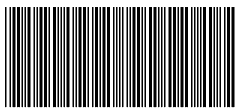
MACROSCOPIC EXAMINATION	
TEST	RESULT
Stool Colour	Brown
Stool Form	Semiformed
Mucous	Absent

OCCULT BLOOD	
TEST	INTERPRETATION
Occult Blood	Negative

GIT FUNCTIONAL MARKERS						
TEST	RESULT	H/L		REF - RANGE	UNITS	
Calprotectin	36.3			(<100.0)	ug/g	
b-Glucuronidase	5190			(368-6266)	U/g	
Pancreatic Elastase 1	>800			(>200)	ug/g	
pH	6.4			(6.3-7.7)		
Secretory IgA	428	L		(200-1300)	ng/mL	
Steatocrit	0.9			(<10.0)	%	
Transglutaminase IgA	1.0			(<100.0)	ug/g	
Zonulin	49			(<120)	ng/mL	

Short Chain Fatty Acids, Beneficial						
Test	Result	H/L		Ref - Range	Units	
Short Chain Fatty Acids, Beneficial	25.3			(>13.6)	umol/g	
Acetate	63.30			(44.00-72.00)	%	
Butyrate	11.70			(10.00-33.00)	%	
Propionate	21.80			(0.00-32.00)	%	
Valerate	3.20			(0.50-7.00)	%	

Parasites & Worms	Bacteria and Viruses	Mycology
No Parasites or Worms detected	Adenovirus 40/41 Helicobacter pylori Enterobacter cloacae Enterococcus casseliflavus Pseudoflavonifractor capillosus STREPTOCOCCUS TOTAL Streptococcus salivarius	Candida albicans



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IMPORTANT BIOCHEMICAL FUNCTIONS

TEST	RESULT	H/L	REF - RANGE	UNITS
Ageing Factors (Oxidative Stress)	0.7160		(<1.0000)	%
Ammonia/Urease Production	0.2670		(<0.5000)	%
Branched Chain AA Production	2.9200		(<5.5000)	%
Carbohydrate Metabolism	4.9000		(1.0000-7.0000)	%
Histamine Production	0.0000		(<1.0000)	%
Iron/Other Ion Metabolism	1.1200		(<3.0000)	%
Indolepropionic Acid (IPA) Production	4.1210		(>1.0000)	%
Lipid Metabolism	5.2000		(1.0000-8.0000)	%
Lipopolysaccharides (LPS) Production	2.5800		(<4.0000)	%
Protein/Other Energy Metabolism	10.500		(5.000-25.000)	%
Sulphate Production	1.0700		(<3.0000)	%
Trimethylamine (TMA) Production	0.0142		(<0.3000)	%

DISEASE RISKS

TEST	RESULT
Colon Cancer Risk	Low Risk
Crohns Disease Risk	Low Risk
Fatty Liver Risk	Low Risk
Type 2 Diabetes Risk	High Risk
Ulcerative Colitis Risk	Low Risk

Disease Risk Disclaimer:

The results from this shotgun microbiome sequencing analysis are for informational and research purposes only. They do not diagnose, treat, or predict any disease or health condition. While certain bacterial compositions may be associated with an increased or decreased risk of specific health outcomes, having a higher risk does not mean you will develop the disease, nor does a lower risk guarantee protection.

The microbiome is a complex and dynamic ecosystem influenced by various factors, including diet, lifestyle, genetics, and environment. These results should be interpreted in conjunction with other clinical assessments and professional medical advice.

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[illegible]

Blastocystis Subtypes	
TEST	RESULT
Subtype 1	Negative
Subtype 2	Negative
Subtype 3	Negative
Subtype 4	Negative
Subtype 5	Negative
Subtype 6	Negative
Subtype 7	Negative
Subtype 8	Negative
Subtype 9	Negative

HELMINTHS	
TEST	RESULT
Ancylostoma species Hookworm	Not Detected
Ascaris species, Roundworm	Not Detected
Enterobius vermicularis, Pinworm	Not Detected
Hymenolepis spp, Tapeworm	Not Detected
Necator americanus, Hookworm	Not Detected
Strongyloides spp, Roundworm	Not Detected
Taenia species, Tapeworm	Not Detected
Trichuris trichiura, Whipworm	Not Detected

VIRUSES	
TEST	RESULT
Adenovirus 40/41	DETECTED
Astrovirus (hAstro)	Not Detected
Norovirus GI/II	Not Detected
Rotavirus A	Not Detected
Sapovirus (I,II,IV,V)	Not Detected

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Macroscopy Comment

SEMI-FORMED STOOL:

A SEMI-FORMED stool specimen classified as Type 4 on the Bristol Stool Chart is generally considered optimal, indicating balanced gut motility, adequate hydration, and sufficient dietary fibre intake. This stool consistency is often associated with efficient digestion, proper colonic function, and microbial stability. However, while Type 4 stools typically suggest gastrointestinal homeostasis, they do not always correlate with a healthy gut microbiome. Pathogenic bacteria, viral infections, parasitic infestations, or gut dysbiosis may still be present, even in well-formed stools. Clinical recommendations include maintaining a fiber-rich diet with prebiotic and probiotic sources, ensuring consistent hydration, and promoting gut microbial diversity through fermented foods or supplementation.

FAECAL OCCULT BLOOD NEGATIVE:

Faecal occult blood has not been detected in this specimen. If the test result is negative and clinical symptoms persist, additional follow-up testing using other clinical methods is recommended.

GIT Markers Comment

PANCREATIC ELASTASE NORMAL (>200 ug/g):

A faecal pancreatic elastase level >200 ug/g indicates normal exocrine pancreatic function.

beta-GLUCORONIDASE NORMAL:

B-Glucuronidase is considered normal and is within reference range.

ACCREDITATION SCOPE: Please note that the above test is currently not under the laboratory's scope of accreditation.

CALPROTECTIN NORMAL (<50 ug/g):

A normal faecal calprotectin level (<50 ug/g) is not suggestive of active gastrointestinal inflammation.

Calprotectin <50 ug/g is typically seen in healthy individuals or those with functional gastrointestinal disorders such as irritable bowel syndrome (IBS). No further invasive testing is usually required unless clinical symptoms persist or escalate. In patients with strong clinical indications of intestinal inflammation, repeat testing may be useful.

FAECAL TRANSGLUTAMINASE IgA: Negative

Tissue Transglutaminase is the most specific test for Coeliac Disease. Levels less than 100 are considered NEGATIVE.

Treatment:

No treatment required. However, If there is clinical suspicion of Coeliac disease consider testing serum Coeliac markers. Also assess IgG/IgA Food sensitivity tests to identify specific food intolerances.

ACCREDITATION SCOPE: Please note that the above test is currently not under the laboratory's scope of accreditation.

SECRETORY IGA LOW:

Secretory IgA is the predominant immunoglobulin in mucosal secretions, including the gastrointestinal tract, where it plays a critical role in maintaining mucosal immunity by neutralising pathogens and preventing microbial adhesion to the intestinal epithelium. Low levels of secretory IgA in stool may indicate impaired mucosal immune function or compromised gut barrier integrity. This reduction can result from chronic stress, malnutrition, immunodeficiency, certain infections, or prolonged use of immunosuppressive medications.

Clinically, low sIgA may predispose individuals to increased susceptibility to gastrointestinal infections, dysbiosis, and inflammation. It can also reflect a weakened first line of defense in the gut-associated lymphoid tissue, potentially contributing to increased antigen exposure



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Zonulin is a protein that modulates intestinal barrier function. This result is considered normal.

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HELICOBACTER PYLORI ELEVATED: PHYLUM: Proteobacteria

TREATMENT: Triple therapy: PPI, clarithromycin and amoxicillin or metronidazole, 7-14 days. If penicillin allergic: PPI, clarithromycin and clindamycin or metronidazole, 7-14 days. If the patient is asymptomatic consider other alternative therapies including:

- o Black currant seed oil and fish oil
- o Lactobacillus Probiotics
- o Vitamin C
- o Mastic gum.

Blood Group Antigen Binding Adhesion (BabA) promotes DNA breakage in host cell, Improves *H. pylori* adherence ("stickiness") to epithelial cells and can promote other virulence factors, especially CagA.

Treatment: More aggressive treatment may be warranted; consider the use of adhesion inhibitions.

CANDIDA ALBICANS ELEVATED: PHYLUM: Ascomycota

TREATMENT SUGGESTIONS: Dietary: Reduce intake of sugars, starches, and fungi. Candida infections may be treated if warranted with antifungal medications such as nystatin, clotrimazole, amphotericin B or miconazole. Probiotic Lactobacillus treatment may also be effective. Rule out allergy to above medication before prescribing/taking.

TOTAL STREPTOCOCCUS LEVELS ELEVATED: PHYLUM: Firmicutes

DESCRIPTION:



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Natural support: Use antimicrobial agents like oregano oil and garlic to manage the overgrowth of *S. salivarius*.

Probiotics: Supplement with *Lactobacillus reuteri* and *Streptococcus thermophilus* to support a healthy oral microbiome.

Dietary changes: Prioritize fiber-rich and anti-inflammatory foods, and include fermented foods like kefir, yogurt, and kimchi to support overall gut and oral health.

Lifestyle: Maintain good oral hygiene, manage stress, and stay hydrated to promote a balanced microbiome.

Probiotics/Beneficial Bacteria Comment

BACTEROIDES UNIFORMIS ELEVATED: PHYLUM: Bacteroidetes

DESCRIPTION: *Bacteroides uniformis* is a Gram-negative, anaerobic bacterium commonly found in the human gut microbiome, where it plays a key role in the breakdown of complex carbohydrates, fiber fermentation, and production of short-chain fatty acids (SCFAs). It is beneficial in maintaining gut health, modulating the immune system, and supporting overall metabolic processes. Elevated levels of *B. uniformis* are generally associated with a healthy, fiber-rich diet, as it thrives on complex polysaccharides and is involved in their fermentation to produce beneficial SCFAs like butyrate and acetate. While elevated *B. uniformis* levels can be indicative of a positive microbial profile and a diet rich in plant-based foods, an overgrowth may indicate dysbiosis, especially when accompanied by other shifts in gut microbiota composition. Excessive levels could be linked to conditions such as irritable bowel syndrome (IBS), metabolic disorders, or an imbalance in the gut microbiota caused by prolonged antibiotic use or prebiotic supplementation. In some cases, an overabundance may also indicate an excess of SCFAs, which could lead to gut discomfort or inflammation, suggesting the need for a more balanced approach to diet and microbiome management.

TOTAL BIFIDOBACTERIUM LEVELS LOW: PHYLUM: Actinobacteria

DESCRIPTION: The total count of *Bifidobacterium* provides a comprehensive view of the collective abundance of species in this genus within the microbiome. These Gram-positive, anaerobic bacteria are key contributors to fermenting dietary fibers into short-chain fatty acids (SCFAs) like acetate and butyrate, which support gut health, immune function, and microbial diversity. They also inhibit pathogenic bacteria and modulate inflammation.

In Western populations, only 30–40% of individuals are estimated to have optimal levels of *Bifidobacterium*, reflecting common dietary patterns that are low in fiber and high in refined carbohydrates. Depleted levels have been linked to inflammatory conditions, metabolic disorders, and reduced gut barrier integrity.

A total count of *Bifidobacterium* has been included to offer a broad overview of the species present in the microbiome, which may assist in guiding clinical treatment decisions.

TOTAL LACTOBACILLUS LEVELS LOW: PHYLUM: Firmicutes

DESCRIPTION: The total count of *Lactobacillus* provides a broad overview of the abundance of various *Lactobacillus* species within the microbiome. These Gram-positive, facultative anaerobic bacteria are critical for gut health, producing lactic acid to regulate pH levels, inhibit pathogens, and promote the growth of beneficial microbes. They contribute to immune modulation, gut barrier integrity, and the digestion of complex carbohydrates.

In Western populations, studies suggest that only about 40–50% of individuals maintain adequate levels of *Lactobacillus*, likely due to diets high in processed foods and low in fermented products. Low levels are associated with gut dysbiosis, increased inflammation, and conditions like irritable bowel syndrome (IBS) or recurrent infections. A total count of *Lactobacillus* has been included to offer a broad overview of the species present in the microbiome, which may assist in guiding clinical treatment decisions.

Viral Pathogens Comment

ADENOVIRUS 40/41 DETECTED:

DESCRIPTION: Adenovirus 40/41 is also known as Enteric adenovirus and transmission is via the faecal-oral route. Common cause of watery diarrhoea/gastroenteritis in infants and children but can also affect adults. Adenovirus is usually self-limiting by 1 week. A repeat test for Enteric Viral Pathogens should be requested to ensure that the virus has cleared.



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TREATMENT SUGGESTIONS:

Conservative hygiene measures such as handwashing, Hydration and strict isolation is recommended for cases as such.

Dominant Phyla Comment

ACTINOBACTERIA PHYLUM LOW:

Actinobacteria are a phylum of gram-positive bacteria and although representing a small percentage of gastrointestinal flora, are pivotal in the maintenance of gut homeostasis. Bifidobacterium is the most common species found in the gastrointestinal tract and are widely used as a probiotics, demonstrating beneficial effects in many pathological conditions and helps maintain the mucosal barrier and reduce lipopolysaccharide in the intestine. Decreased actinobacteria colonisation is usually seen with ageing, with antibiotic use or with pathogenic infection.

VERRUCOMICROBIA PHYLUM ELEVATED:

Verrucomicrobiota is a phylum of Gram-negative bacteria that contains only a few described species, found in the environment and gastrointestinal tract. Verrucomicrobia aid in glucose homeostasis of the human gut and have anti-inflammatory properties that further aid in intestinal health. Elevated colonisation of Verrucomicrobia phylum may be seen following broad-spectrum antibiotic regimen or with pathogenic infection.

Microbiota Ratios Comment

PROTEOBACTERIA/ACTINOBACTERIA RATIO:

In general, the P/A ratio could serve as a potential indicator of gut microbiota balance or dysbiosis. Actinobacteria, particularly members like Bifidobacterium, are known for their health-promoting properties, including the production of short-chain fatty acids (SCFAs) and modulation of the immune system. In contrast, an overrepresentation of Proteobacteria is often associated with a state of dysbiosis and has been linked to various inflammatory and metabolic diseases. A higher P/A ratio might indicate a shift towards a less favorable gut microbiota composition, potentially signifying an increased risk of inflammation or disease.

Methodology

Automated Chemistry/Immunochemistry, Chemiluminescence Immunoassay (CLIA), Enzyme-Linked Immunosorbent Assay (ELISA), Microscopy, Fluorescence Enzyme Immunoassay (FEIA), pH Electrode, Gas Chromatography-MS (GC/MS), Metagenomic Next Generation Sequencing (mNGS), Quantitative PCR (qPCR), Polymerase Chain Reaction (PCR)