

25308-0010

Dr TEST DOCTOR TEST HEALTH CENTRE. 123 TEST STREET, BURWOOD VIC 3125

Lab ID 4161265
Patient ID P005260
Ext ID 25308-0010

TEST PATIENT

Sex: Male • 4wks • 01-Oct-25
16 HARKER STREET, BURWOOD VIC 3125

RECEIVED
03-Nov-25

GI-Basic

Specimen type - Stool

Collected

03-Nov-25 12:57pm

MACROSCOPIC EXAMINATION		OCCULT BLOOD	
TEST	RESULT	TEST	INTERPRETATION
Stool Colour	Tan	Occult Blood	POSITIVE
Stool Form	Liquid		
Mucous	PRESENT		

Parasites & Worms	Bacteria & Viruses	Mycology
Necator americanus, Hookworm	Pseudomonas aeruginosa Enterobacter cloacae complex Citrobacter freundii complex Klebsiella pneumoniae complex Shiga toxigenic E. coli (stx1/2)	Candida intermedia

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TEST	RESULT	H/L	REFERENCE	UNITS
Blastocystis hominis	<DL		(<1.00)	x10^5 org/g
Cryptosporidium species	<DL		(<1.00)	x10^5 org/g
Cyclospora cayetanensis	<DL		(<1.00)	x10^5 org/g
Dientamoeba fragilis	<DL		(<1.00)	x10^5 org/g
Entamoeba histolytica	<DL		(<1.00)	x10^5 org/g
Giardia intestinalis	<DL		(<1.00)	x10^5 org/g
Enterocytozoon species	<DL		(<1.00)	x10^5 org/g

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	DETECTED
Strongyloides spp, Roundworm	Not Detected
Taenia species, Tapeworm	Not Detected
Trichuris trichiura, Whipworm	Not Detected

TEST	RESULT
Adenovirus 40/41	Not 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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● Actinobacteria Phylum ● Bacteroidetes Phylum ● Euryarchaeota Phylum ● Firmicutes Phylum ● Proteobacteria Phylum ● Verrucomicrobia Phylum

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Candida albicans	<DL			(<1.00)	x10^5 CFU/g
Candida dubliniensis	<DL			(<1.00)	x10^5 CFU/g
Candida famata	<DL			(<1.00)	x10^5 CFU/g
Candida glabrata	<DL			(<1.00)	x10^5 CFU/g
Candida guilliermondii	<DL			(<1.00)	x10^5 CFU/g
Candida intermedia	3.00	H		(<1.00)	x10^5 CFU/g
Candida kefyr	<DL			(<1.00)	x10^5 CFU/g
Candida krusei	<DL			(<1.00)	x10^5 CFU/g
Candida lambica	<DL			(<1.00)	x10^5 CFU/g
Candida lipolytica	<DL			(<1.00)	x10^5 CFU/g
Candida lusitanae	<DL			(<1.00)	x10^5 CFU/g
Candida parapsilosis	<DL			(<1.00)	x10^5 CFU/g
Candida tropicalis	<DL			(<1.00)	x10^5 CFU/g
Candida species	<DL			(<1.00)	x10^5 CFU/g
Geotrichum species	<DL			(<1.00)	x10^5 CFU/g
Rhodotorula species	<DL			(<1.00)	x10^5 CFU/g
Saccharomyces cerevisiae	<DL			(<1.00)	x10^5 CFU/g

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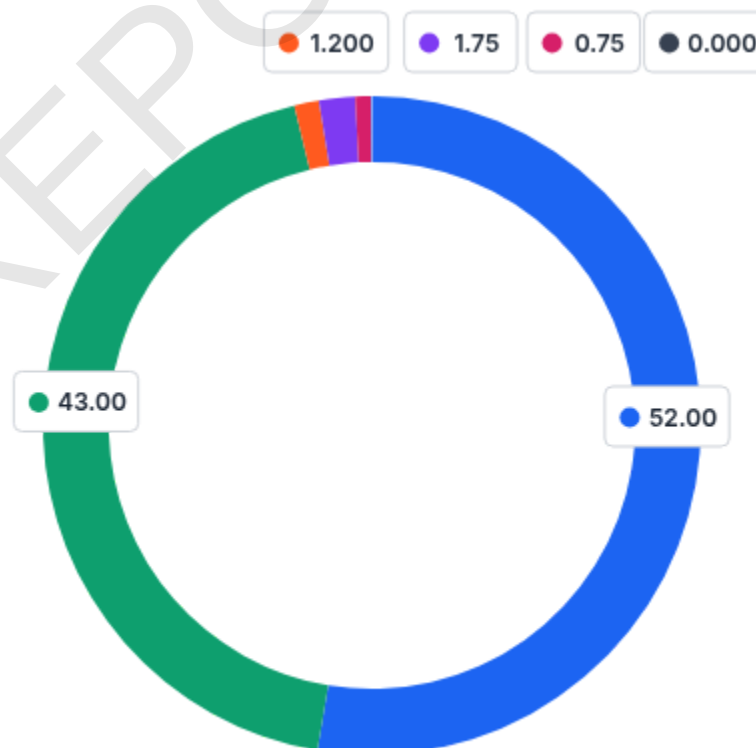
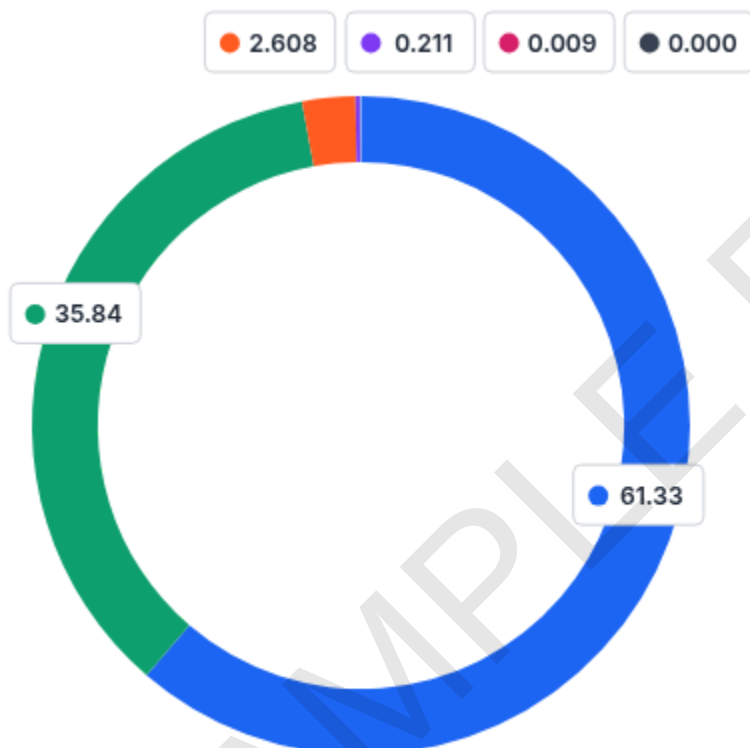
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TEST	RESULT	H/L		REFERENCE	UNITS
Akkermansia muciniphila	10.00			(1.00-50.00)	x10^7 CFU/g
TOTAL BIFIDOBACTERIA	28.00			(<2000.00)	x10^6 CFU/g
Bifidobacterium adolescentis	<DL			(<1000.00)	x10^6 CFU/g
Bifidobacterium bifidum	28.00			(<1000.00)	x10^6 CFU/g
Bifidobacterium breve	<DL			(<1000.00)	x10^6 CFU/g
Bifidobacterium longum	<DL			(<1000.00)	x10^6 CFU/g
Clostridium species	100.00	H		(5.00-50.00)	x10^7 CFU/g
Enterococcus species	9.00			(<2000.00)	x10^3 CFU/g
Escherichia species	4400.00	H		(3.70-3800.00)	x10^4 CFU/g
Faecalibacterium prausnitzii	140.00			(100.00-3500.00)	x10^6 CFU/g
TOTAL LACTOBACILLI	10.00			(<3000.00)	x10^3 CFU/g
Lactobacillus acidophilus	<DL			(<500.00)	x10^3 CFU/g
Lactobacillus casei	<DL			(<500.00)	x10^3 CFU/g
Lactobacillus delbrueckii	<DL			(<500.00)	x10^3 CFU/g
Lactobacillus plantarum	10.00			(<500.00)	x10^3 CFU/g
Lactobacillus rhamnosus	<DL			(<500.00)	x10^3 CFU/g
Lactobacillus salivarius	<DL			(<500.00)	x10^3 CFU/g
Oxalobacter formigenes	4.00			(<50.00)	x10^6 CFU/g

● Actinobacteria Phylum ● Bacteroidetes Phylum ● Euryarchaeota Phylum ● Firmicutes Phylum ● Proteobacteria Phylum ● Verrucomicrobia Phylum

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TEST	RESULT	H/L	REFERENCE	UNITS
Actinobacteria Phylum	0.009		(0.001-1.500)	%
Bacteroidetes Phylum	61.33		(40.00-87.00)	%
Euryarchaeota Phylum	0.000		(0.000-0.010)	%
Firmicutes Phylum	35.84		(10.00-60.00)	%
Proteobacteria Phylum	2.608		(0.250-5.000)	%
Verrucomicrobia Phylum	0.211		(0.000-2.400)	%



SERVICE	RESULT	H/L	REFERENCE	UNITS
Firmicutes/Bacteroidetes Ratio	0.58		(<2.00)	ratio

Actinobacteria Phylum Bacteroidetes Phylum Euryarchaeota Phylum Firmicutes Phylum Proteobacteria Phylum Verrucomicrobia Phylum



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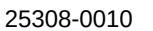
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The Four “R” Treatment Protocol

REMOVE	Using a course of antimicrobial, antibacterial, antiviral or anti parasitic therapies in cases where organisms are present. It may also be necessary to remove offending foods, gluten, or medication that may be acting as antagonists. Consider testing IgG96 foods as a tool for removing offending foods.	ANTIMICROBIAL	Oil of oregano, berberine, caprylic acid
		ANTIBACTERIAL	Liquorice, zinc carnosine, mastic gum, tribulus, berberine, black walnut, caprylic acid, oil of oregano
		ANTIFUNGAL	Oil of oregano, caprylic acid, berberine, black walnut
		ANTIPARASITIC	Artemesia, black walnut, berberine, oil of oregano
		ANTIVIRAL	Cat’s claw, berberine, echinacea, vitamin C, vitamin D3, zinc, reishi mushrooms
		BIOFILM	Oil of oregano, protease
REPLACE	In cases of maldigestion or malabsorption, it may be necessary to restore proper digestion by supplementing with digestive enzymes.	DIGESTIVE SUPPORT	Betaine hydrochloride, tilactase, amylase, lipase, protease, apple cider vinegar, herbal bitters
REINOCULATE	Recolonisation with healthy, beneficial bacteria. Supplementation with probiotics, along with the use of prebiotics helps re-establish the proper microbial balance.	PREBIOTICS	Slippery elm, pectin, larch arabinogalactans
		PROBIOTICS	Bifidobacterium animalis sup lactose, lactobacillus acidophilus, lactobacillus plantarum, lactobacillus casei, bifidobacterium breve, bifidobacterium bifidum, bifidobacterium longum, lactobacillus salivarius sup salivarius, lactobacillus paracasei, lactobacillus rhamnosus, Saccharomyces boulardii
REPAIR & REBALANCE	Restore the integrity of the gut mucosa by giving support to healthy mucosal cells, as well as immune support. Address whole body health and lifestyle factors so as to prevent future GI dysfunction.	INTESTINAL MUCOSA IMMUNE SUPPORT	Saccharomyces boulardii, lauric acid
		INTESTINAL BARRIER REPAIR	L-Glutamine, aloe vera, liquorice, marshmallow root, okra, quercetin, slippery elm, zinc carnosine, Saccharomyces boulardii, omega 3 essential fatty acids, B vitamins
		SUPPORT CONSIDERATION	Sleep, diet, exercise, and stress management



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LIQUID STOOL:

MUCOUS HAS BEEN DETECTED IN THIS SPECIMEN:

- Investigate and treat possible underlying cause.
- Assess other Gut markers (e.g. calprotectin, M2PK, etc).

Faecal occult blood has been detected in this specimen. The presence of blood in the stool may be the result of several causes besides colorectal bleeding, including hemorrhoids or gastrointestinal infection. Results should be considered with other clinical information available to the physician. Please note: A positive result indicates that the sample likely contains a human haemoglobin concentration >20ng/ml (Limit of detection). Review this result with other inflammation markers such as calprotectin.

NECATOR AMERICANUS (Hookworm) DETECTED:

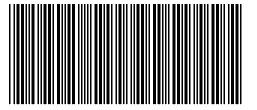
TREATMENT SUGGESTIONS:

Effective treatments include Albendazole or Mebendazole single oral dose or pyrantel pamoate. Rule out allergy to above medication before prescribing/taking. Hand hygiene and washing bedding /clothes in hot water cycle is recommended to prevent recurrence. Individuals presenting with anaemia may benefit from iron supplementation. A repeat test should be suggested post therapy.

SHIGA TOXIGENIC E.COLI ELEVATED: PHYLUM: Proteobacteria

Shiga toxin (Stx) is an enterotoxin produced by Shiga toxin-producing *Escherichia coli* (STEC) and *Shigella* species, known to cause gastroenteritis in humans. The Stx family is classified into two distinct, immunologically non-cross-reactive groups: Stx1 and Stx2. Stx serves as the primary virulence factor for enterohemorrhagic *E. coli* (EHEC), a pathogen responsible for clinical manifestations such as bloody diarrhea (hemorrhagic colitis), non-bloody diarrhea, and, in severe cases, hemolytic uremic syndrome (HUS).

PSEUDOMONAS AERUGINOSA ELEVATED: PHYLUM: Proteobacteria



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DESCRIPTION: *Pseudomonas aeruginosa* is a gram-negative, aerobic, non-spore forming bacteria that can cause a variety of infections in both immunocompetent and immunocompromised hosts. It is commonly found in the environment, particularly in freshwater, hot tubs, and swimming pools. Chronic gastrointestinal colonization is acknowledged to be an important component of *P. aeruginosa* diarrheal disease and systemic infections. Since disruption of the normal flora by antibiotics can reduce colonization resistance and promote pathologic colonization with *P. aeruginosa*, enterocolitis due to *P. aeruginosa* may also be considered to be an antibiotic-associated gastroenteritis. *Pseudomonas aeruginosa* in the gastrointestinal tract can cause inflammation, epithelial barrier dysfunction, tight cell junction interruption, and intestinal permeability.

TREATMENT SUGGESTIONS: If treatment is warranted, *Pseudomonas* is usually susceptible to antipseudomonal penicillins, aminoglycosides, carbapenems, 3rd generation cephalosporins and gentamycin. Plant-derived anti-biofilm products identified against *P. aeruginosa* include alkaloids, organosulfur compounds, flavonoids, phenolic compounds and terpenoids. Rule out allergy to above medication before prescribing/taking.

ENTEROBACTER CLOACAE COMPLEX ELEVATED: PHYLUM: Proteobacteria

DESCRIPTION:

Enterobacter is a genus of common Gram-negative, facultatively anaerobic, rod-shaped bacteria, commonly found in the environment as well as the gastrointestinal tract. There are many species, however, not all species are known to cause human disease.

Usually considered a commensal organism; however, strains of *E. coli* have been shown to produce a heat-stable toxin similar to that produced by *E. coli*.

Elevated levels may also be associated with antibiotic use, obesity, inflammation, inflammatory bowel disease and nosocomial, urinary tract, respiratory and other infections.

TREATMENT SUGGESTIONS: Antibiotic resistance is a growing problem with regard to treating *Enterobacter* infections. If treatment is warranted, carbapenems, beta-lactams, beta-lactamase inhibitors, fluoroquinolones, aminoglycosides, and sulfamethoxazole/trimethoprim may be effective.

Potential Autoimmune Comment

FUSOBACTERIUM SPECIES ELEVATED: PHYLUM: Fusobacteriota

DESCRIPTION: *Fusobacterium* species are gram-negative bacteria and are common members of the human oral and faecal microbiome. It has been demonstrated to promote the release of intestinal inflammatory factors and disrupt the intestinal barrier function. As such *F. nucleatum* elevation may contribute to the etiology of some gastrointestinal disorders, such as appendicitis, colon cancer, and inflammatory bowel disease (IBD). It may also induce an increase in secretory IgA and a decrease in beneficial bacteria levels such as *Lactobacillus*. Review this level with faecal calprotectin.

TREATMENT SUGGESTIONS: If treatment is warranted, effective antibiotics may include metronidazole or erythromycin. The use of herbal antimicrobials (Tea polyphenols- green and black tea extracts and peppermint) and probiotic treatment may also be effective. Rule out allergy to above medication before prescribing/taking.

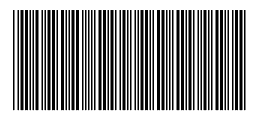
CITROBACTER FREUNDII ELEVATED: PHYLUM: Proteobacteria

DESCRIPTION: *Citrobacter freundii* is a species of facultative anaerobic Gram-negative predominantly soil-dwelling bacteria, but can also be found in water, sewage, food, and the intestinal tract. *Citrobacter freundii* is an emerging opportunistic pathogen and elevation may be a cause of nosocomial infections, diarrheal infections and has increasingly become multidrug resistant (MDR).

TREATMENT SUGGESTIONS: A practitioner may take into consideration a range of patient factors and symptoms to determine if treatment is necessary. *Citrobacter freundii* infection is usually treated with antibiotics like fluoroquinolones, carbapenems and cephalosporins. The treatment plan depends up on the vulnerability of the microbe to the antibiotics and the degree of infection. Treatments may also include herbal antimicrobials and/or probiotics. Rule out allergy to above medication before prescribing/taking.

KLEBSIELLA PNEUMONIAE COMPLEX ELEVATED: PHYLUM: Proteobacteria

DESCRIPTION:



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ESCHERICHIA SPECIES ELEVATED: PHYLUM: Proteobacteria

DESCRIPTION: *Escherichia* is a genus of Gram-negative, non-spore-forming, facultatively anaerobic, rod-shaped bacteria and normal inhabitants of the gastrointestinal tract. Species include *E. albertii*, *E. fergusonii*, *E. hermannii*, *E. marmotae* and most notably *E. coli*. High levels may be indicative of increased intestinal inflammatory activity and be associated with irritable bowel syndrome, Crohn's, ulcerative colitis and diarrhea. Studies have also revealed that chronic psychological stress may be associated with an increase in *E. coli* colonisation.

TREATMENT SUGGESTIONS: Commensal probiotic cocktails are suggested to prevent and reverse gut elevated colonization.

LACTOBACILLUS ACIDOPHILUS LOW: PHYLUM: Firmicutes

DESCRIPTION: *Lactobacillus acidophilus* is a Gram-positive, rod-shaped, non-spore-forming bacterium commonly found in the human gut and fermented foods. It plays a key role in oxalate degradation, bowel normalisation and may assist patients with bloating.

TREATMENT SUGGESTIONS: Consider probiotic supplementation containing *L. acidophilus*.

LACTOBACILLUS CASEI LOW: PHYLUM: Firmicutes

DESCRIPTION: *Lactobacillus casei* is a Gram-positive, rod-shaped, non-spore-forming, anaerobic probiotic bacterium involved in the fermentation of foods like cheese and yogurt. It produces antimicrobial substances, enhances gut barrier function, reduces pathogenic bacteria, and modulates the immune system. This bacterium is used to prevent and may assist various forms of diarrhea, including infectious diarrhea, traveller's diarrhea, and antibiotic-associated diarrhea.

TREATMENT SUGGESTIONS: Consider probiotic supplementation containing *L. casei* and consuming fermented foods such as cheese and yogurt.

LACTOBACILLUS DELBRUECKII LOW: PHYLUM: Firmicutes

DESCRIPTION:

Lactobacillus delbrueckii is a beneficial Gram-positive bacterium commonly found in the gut microbiome and known for its role in maintaining gastrointestinal health. It produces lactic acid through the fermentation of carbohydrates, contributing to a lower gut pH, which inhibits the growth of pathogenic microorganisms such as Clostridium and Candida species. Additionally, L. delbrueckii can enhance the intestinal barrier function and modulate the host immune response by promoting the production of anti-inflammatory cytokines. Its presence in the gut is associated with improved digestion and nutrient absorption, making it an important component in supporting overall gut health and microbial balance.

LACTOBACILLUS RHAMNOSUS LOW: PHYLUM: Firmicutes

DESCRIPTION: *Lactobacillus rhamnosus* is a Gram-positive anaerobic bacterium and is one of the most widely used probiotic strains, of which various health effects are well documented including the prevention and treatment of gastro-intestinal infections and diarrhea and even preventing certain allergic symptoms. Decreased *Lactobacillus rhamnosus* colonisation has been shown to decrease gastro-intestinal health, increasing the risk of gastro-intestinal infections and diarrhea as well as extra-intestinal infections including oral and respiratory health. Studies have also revealed that chronic psychological stress and alcohol use may be associated with a decrease in *Lactobacillus* species, as well as antibiotic / medication use.

TREATMENT SUGGESTIONS: Treatment may involve the use of Lactobacillus containing probiotics and treatment of any intestinal infections.

LACTOBACILLUS SALIVARIUS LOW: PHYLUM: Firmicutes

DESCRIPTION: *Lactobacillus salivarius* is a Gram-positive, rod-shaped, non-spore-forming bacterium predominantly found in the human oral cavity, gastrointestinal tract, and vagina. It plays a significant role in maintaining oral and gut health by producing lactic acid and bacteriocins, which inhibit the growth of pathogenic bacteria. *L. salivarius* enhances gut barrier function, modulates the immune system, and helps in the digestion of proteins and complex carbohydrates. It has been studied for its potential benefits in managing conditions such as irritable bowel syndrome (IBS), periodontal disease, and atopic dermatitis, highlighting its importance in promoting overall health and preventing infections.

