



3983584

## COMPLETE MICROBIOME MAPPING

### General Macroscopic Description

	Result	Markers
Stool Colour	<b>Brown</b>	<b>Colour</b> - Brown is the colour of normal stool. Other colours may indicate abnormal gut health.
Stool Form	<b>Unformed</b>	<b>Form</b> - Sample form is categorised using the Bristol stool chart. A comment on stool appearance can be found in the comments section.
Mucous	<b>Not Detected</b>	<b>Mucous</b> - Mucous production may indicate the presence of an infection and/or inflammation.
Occult Blood	<b>Negative</b>	<b>Blood (Macro)</b> - The presence of blood in the stool may be the result of several causes besides colorectal bleeding, including hemorrhoids or gastrointestinal infection.

Short Chain Fatty Acids	Result	Range	Units	
Short Chain Fatty Acids, Beneficial	38.8	> 13.6	umol/g	
Butyrate	16.0	10.8 - 33.5	%	
Acetate	62.5	44.5 - 72.4	%	
Propionate	18.2	0.0 - 32.0	%	
Valerate	3.3	0.5 - 7.0	%	

GIT Functional Markers	Result	Range	Units	
Calprotectin.	8.8	0.0 - 50.0	ug/g	
Pancreatic Elastase	116.0 *L	> 200.0	ug/g	
Secretory (slgA)	1126.4	510.0 - 2040.0	ng/mL	
Zonulin	42.0	0.0 - 107.0	ng/mL	
Beta glucuronidase	7498.5 *H	368.0 - 6266.0	U/g	
Steatocrit	13.0 *H	0.0 - 10.0	%	
a-Transglutaminase IgA	<20	0.0 - 100.0	units/L	

### Microbiome Mapping Summary

#### Parasites & Worms

Blastocystis hominis.

#### Bacteria & Viruses

#### Fungi and Yeasts

#### Key Phyla Microbiota

Firmicutes:Bacteroidetes Ratio

0.95 < 1.00

RATIO



Relative Commensal Abundance of the 6 Phyla groups can be found on page 4 of this report



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-.RACHEAL LEE (NPINS)  
SHOP 6/115 SHINGLEY DRIVE  
AIRLIE BEACH QLD 4802

**BENJAMIN JACOBSON**  
**24-Sep-1991**      **Male**

5 MERMAID STREET  
SHOAL POINT QLD 4750

LAB ID : 3983584  
UR NO. : 6271264  
Collection Date : 07-May-2024  
Received Date: 09-May-2024



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## Parasites and Worms.

### Parasitic Organisms

Result	Range	Units	
Cryptosporidium species	<dl < 1.0	x10 <sup>5</sup> org/g	
Entamoeba histolytica.	<dl < 1.0	x10 <sup>5</sup> org/g	
Giardia intestinalis	<dl < 1.0	x10 <sup>5</sup> org/g	
Blastocystis hominis.	1.9 *H < 1.0	x10 <sup>5</sup> org/g	
Dientamoeba fragilis.	<dl < 1.0	x10 <sup>5</sup> org/g	
Endolimax nana	<dl < 1.0	x10 <sup>5</sup> org/g	
Entamoeba coli.	<dl < 5.0	x10 <sup>5</sup> org/g	
Pentatrichomonas hominis	<dl < 1.0	x10 <sup>5</sup> org/g	

### Worms

Ancylostoma duodenale, Roundworm	Not Detected		
Ascaris lumbricoides, Roundworm	Not Detected	Necator americanus, Hookworm	Not Detected
Trichuris trichiura, Whipworm	Not Detected	Enterobius vermicularis, Pinworm	Not Detected
Enterocytozoon spp	Not Detected	Hymenolepis spp, Tapeworm	Not Detected
Strongyloides spp, Roundworm	Not Detected	Taenia species, Tapeworm	Not Detected

Comment: Not Detected results indicate the absence of detectable DNA in the sample for the worms reported.  
NOTE: Reflex testing is performed on clinically indicated samples

## Opportunistic Bacteria/Overgrowth

Result	Range	Units	
Bacillus species.	<dl < 1.00	x10 <sup>4</sup> CFU/g	
Enterococcus faecalis	<dl < 1.00	x10 <sup>5</sup> CFU/g	
Enterococcus faecium	<dl < 1.00	x10 <sup>5</sup> CFU/g	
Morganella species	<dl < 1.00	x10 <sup>5</sup> CFU/g	
Pseudomonas species	0.23 < 1.00	x10 <sup>4</sup> CFU/g	
Pseudomonas aeruginosa.	<dl < 3.00	x10 <sup>4</sup> CFU/g	
Staphylococcus species	0.35 < 1.00	x10 <sup>3</sup> CFU/g	
Staphylococcus aureus	<dl < 5.00	x10 <sup>3</sup> CFU/g	
Streptococcus species	0.22 < 3.00	x10 <sup>6</sup> CFU/g	
Methanobrevibacter smithii	0.51 < 3.50	x10 <sup>5</sup> CFU/g	
Desulfovibrio piger	<dl < 18.00	x10 <sup>7</sup> CFU/g	
Enterobacter cloacae complex.	<dl < 5.00	x10 <sup>5</sup> CFU/g	

### Potential Autoimmune Triggers

Citrobacter species.	<dl < 5.00	x10 <sup>4</sup> CFU/g	
Citrobacter freundii.	<dl < 5.00	x10 <sup>4</sup> CFU/g	
Klebsiella species	<dl < 5.00	x10 <sup>3</sup> CFU/g	
Klebsiella pneumoniae.	<dl < 5.00	x10 <sup>5</sup> CFU/g	
Prevotella copri	<dl < 1.00	x10 <sup>9</sup> CFU/g	
Proteus species	<dl < 5.00	x10 <sup>5</sup> CFU/g	
Proteus mirabilis.	<dl < 1.00	x10 <sup>4</sup> CFU/g	
Fusobacterium species	3.97 < 10.00	x10 <sup>4</sup> CFU/g	

## Fungi & Yeast

Result	Range	Units	
Candida albicans.	<dl < 5.00	x10 <sup>4</sup> CFU/g	
Candida species.	<dl < 5.00	x10 <sup>5</sup> CFU/g	
Geotrichum species.	<dl < 3.00	x10 <sup>2</sup> CFU/g	
Saccharomyces cerevisiae.	<dl < 3.00	x10 <sup>3</sup> CFU/g	
Rhodotorula species.	<dl < 1.00	x10 <sup>3</sup> CFU/g	



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Bacterial Pathogens	Result	Range	Units	
Aeromonas hydrophila.	<dl	< 1.00	x10 <sup>3</sup> CFU/g	
Campylobacter species.	<dl	< 1.00	x10 <sup>5</sup> CFU/g	
C. difficile, Toxin A	<dl	< 1.00	x10 <sup>4</sup> CFU/g	
C. difficile, Toxin B	<dl	< 1.00	x10 <sup>4</sup> CFU/g	
Enterohemorrhagic E. coli	<dl	< 1.00	x10 <sup>5</sup> CFU/g	
Enteroinvasive E. coli/Shigella	<dl	< 1.00	x10 <sup>3</sup> CFU/g	
Enterotoxigenic E. coli LT/ST	<dl	< 1.00	x10 <sup>5</sup> CFU/g	
Shiga-like Toxin E. coli stx1	<dl	< 1.00	x10 <sup>4</sup> CFU/g	
Shiga-like Toxin E. coli stx2	<dl	< 1.00	x10 <sup>4</sup> CFU/g	
Salmonella species.	<dl	< 1.00	x10 <sup>5</sup> CFU/g	
Vibrio species.	<dl	< 1.00	x10 <sup>4</sup> CFU/g	
Yersinia species.	<dl	< 1.00	x10 <sup>5</sup> CFU/g	
Helicobacter pylori	<dl	< 1.0	x10 <sup>3</sup> CFU/g	

**Comment: Helico Pylori virulence factors will be listed below if detected POSITIVE**

H.pylori Virulence Factor, babA	Not Detected	H.pylori Virulence Factor, cagA	Not Detected
H.pylori Virulence Factor, dupA	Not Detected	H.pylori Virulence Factor, iceA	Not Detected
H.pylori Virulence Factor, oipA	Not Detected	H.pylori Virulence Factor, vacA	Not Detected
H.pylori Virulence Factor, virB	Not Detected	H.pylori Virulence Factor, virD	Not Detected

Viral Pathogens	Result	Range	Units
Adenovirus 40/41	Not Detected		
Norovirus GI/II	Not Detected		
Rotavirus A	Not Detected		
Sapovirus (I,II,IV,V)	Not Detected		
Astrovirus (hAstro)	Not Detected		

Normal Bacterial GUT Flora	Result	Range	Units	
Bacteroides fragilis	55.5	1.6 - 250.0	x10 <sup>5</sup> CFU/g	
Bifidobacterium species	8705.0	> 6.7	x10 <sup>5</sup> CFU/g	
Bifidobacterium longum	89.4	> 5.2	x10 <sup>5</sup> CFU/g	
Enterococcus species	24.3	1.9 - 2000.0	x10 <sup>3</sup> CFU/g	
Escherichia species	2746.6	3.7 - 3800.0	x10 <sup>4</sup> CFU/g	
Lactobacillus species	25.6	8.6 - 6200.0	x10 <sup>3</sup> CFU/g	
Lactobacillus rhamnosus	2.0 *L	8.3 - 885.0	x10 <sup>3</sup> CFU/g	
Clostridium species	55.9 *H	5.0 - 50.0	x10 <sup>7</sup> CFU/g	
Oxalobacter formigenes	8.94	> 5.00	x10 <sup>6</sup> CFU/g	
Akkermansia muciniphila	<dl *L	1.00 - 50.00	x10 <sup>7</sup> CFU/g	
Faecalibacterium prausnitzii	663.0	200.0 - 3500.0	x10 <sup>6</sup> CFU/g	

#### Methodology:

GIT Functional markers performed by GCMS,EIA,FEIA.

Bacteriology,Virology,Fungi,Parasites & Worms performed by PCR,qPCR.

<dl = result below detectable limit. \*H = Result greater than the reference range. \*L = Result less than the reference range



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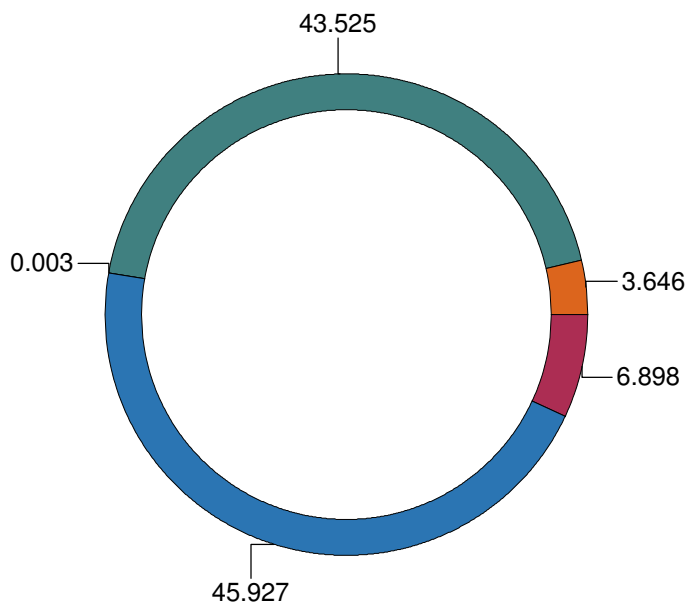
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#### Introduction:

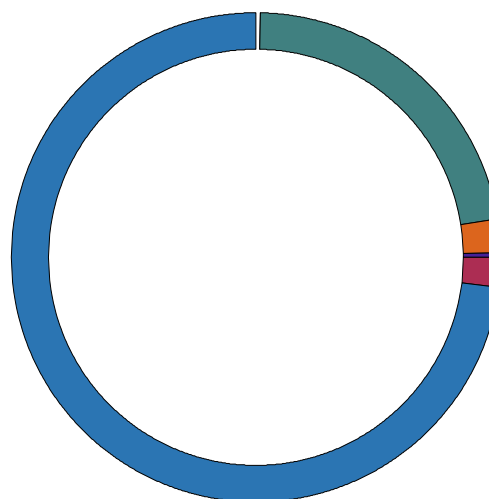
Your gut microbiome is a collective name for the 40 trillion cells and up to 1000 microbial species that include bacteria, viruses, fungi, parasites, and archaea and reside in our gut. The number of gut bacterial cells is approximately equal to the total number of human cells in our body, so if we consider only cell counts, we are only about half human. In terms of gene counts, the microbiome contains about 200 times more genes than the human genome, making bacterial genes responsible for over 99% of our body's gene content! Of all the microbial communities in the human body, the gut microbiome is by far the most dense, diverse, and physiologically important ecosystem to our overall health.

Relative Commensal Abundance	Result	Range	Units
 Bacteroidetes Phylum	45.927 *L	50.000 - 95.000	%
 Firmicutes Phylum	43.525 *H	3.500 - 40.000	%
 Actinobacteria Phylum	6.898 *H	0.001 - 4.818	%
 Proteobacteria Phylum	3.646	0.500 - 12.500	%
 Euryarchaeota Phylum	0.003	0.000 - 0.017	%
 Verrucomicrobia Phylum	0.000	0.000 - 2.400	%

**Your Phyla:**



**Healthy Phyla:**



#### References:

NOTE: Relative abundance reference ranges have been based on a healthy population study.

King CH, et., al. (2019) Baseline human gut microbiota profile in healthy people and standard reporting template. PLoS One. 2019 Sep 11;14(9):e0206484.



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## Pathogen Summary:

### Macroscopy Comment

BROWN coloured stool is considered normal in appearance.

UNFORMED/LIQUID stools may indicate the presence of infection and/or inflammation.

Consider dysbiosis, food sensitivity, high dose vitamin C and magnesium, infection, intestinal permeability, laxative use, malabsorption, maldigestion, stress. Other causes: bacterial, fungal, viral and other parasitic infections.

Treatment:

- Investigate and treat possible underlying cause.
- Assess other gut markers (e.g pH, pancreatic elastase 1, etc).

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.

### Metabolism Comment

In a healthy gut Short Chain Fatty Acids (SCFAs) exhibited in the following proportions; Butyrate, Acetate, Propionate (16%:60%:24%).

The primary SCFAs butyrate, propionate and acetate are produced by predominant commensal bacteria via fermentation of soluble dietary fibre and intestinal mucus glycans.

Key producers of SCFAs include *Faecalibacterium prausnitzii*, *Akkermansia muciniphila*, *Bacteroides fragilis*, *Bifidobacterium*, *Clostridium* and *Lactobacillus* Spp.

The SCFAs provide energy for intestinal cells and regulate the actions of specialised mucosal cells that produce anti-inflammatory and antimicrobial factors, mucins that constitute the mucus barriers, and gut active peptides that facilitate appetite regulation and euglycemia. Abnormal SCFAs may be associated with dysbiosis, intestinal barrier dysfunction and inflammatory conditions.

## SCFA PRODUCTION TABLE

BACTERIA	BUTYRATE	PROPIONATE	ACETATE
<i>Akkermansia muciniphila</i>		▲▲▲	▲▲
<i>Anaerostipes caccae</i>	▲▲▲		
<i>Bacteroides</i> spp.		▲▲▲	
<i>Bifidobacterium</i> spp.		▲	▲▲▲
<i>Blautia obeum</i>		▲▲	▲▲▲
<i>Coprococcus eutactus</i>	▲		
<i>Escherichia coli</i>			▲
<i>Eubacterium rectale</i>	▲▲		
<i>Faecalibacterium prausnitzii</i>	▲▲▲		
<i>Lactobacillus</i> spp.	▲	▲	▲
<i>Roseburia homini</i>	▲▲		
<i>Ruminococcus bromii</i>	▲		▲
<i>Subdoligranulum variable</i>	▲		

KEY

▲ Low Producers

▲▲ Moderate Producers

▲▲▲ High Producers



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## GIT Markers Comment

PANCREATIC ELASTASE: MILD TO MODERATE INSUFFICIENCY.

Pancreatic insufficiency reflects trypsin, chymotrypsin, amylase and lipase activity.

PE1 is also useful in monitoring exocrine pancreatic function caused by: Chronic pancreatitis, Autoimmunopathies & connective tissue diseases, Chronic inflammatory bowel disease, Intestinal malabsorption with mucosal atrophy.

Treatment:

- Digestive enzyme supplementation
- A low-fat diet to control steatorrhea (excess fat in stools)
- Vitamin and mineral supplementation
- Investigate underlying causes for reduced pancreatic function (for eg. Coeliac disease, duodenal enteropathy, pancreatitis).

Testing performed by chemiluminescence immunoassay (CLIA).

CALPROTECTIN Normal:

Faecal calprotectin values <50 ug/g are not indicative of inflammation in the gastrointestinal tract. Subjects with low faecal calprotectin levels normally do not need to be further investigated by invasive procedures. In patients with strong clinical indications of intestinal inflammation, repeat testing may be useful.

Test performed by Phadia ELIA Fluorescence enzyme immunoassay (FEIA).

SECRETORY IGA NORMAL:

Secretory IgA is within range.

Secretory IgA represents the first line of defence of the gastrointestinal mucosa and is central to the normal function of the gastrointestinal tract as an immune barrier. Review this level with other pathogenic bacteria and normal commensal flora. Lower levels within reference range should be interpreted clinically.

ZONULIN NORMAL:

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

BETA GLUCURONIDASE ELEVATED:

Beta-glucuronidase is a bacterial enzyme that may limit the body's ability to excrete compounds such as drugs, hormones, and environmental toxins. Certain bacteria may also increase Beta-glucuronidase such as elevated levels of E.coli.

Treatment:

Consider Calcium-D-glucarate which may assist with lowering B-glucuronidase levels. It is also suggested to introduce a low-calorie/vegetarian diet for 4 weeks which may also be beneficial with lowering faecal B-glucuronidase levels. Additionally, one human study has suggested that consuming glucomannan can reduce fecal beta-glucuronidase activity. Glucomannan is a type of prebiotic fiber found in konjac root which is commonly used to make low calorie pasta and noodles.

ELEVATED STEATOCRIT:

The presence of steatorrhea is an indirect indicator of incomplete fat digestion. Consider high dietary fat intake, cholestasis, malabsorption and digestion (diarrhoea, pancreatic or bile salt insufficiency), intestinal dysbiosis, parasites, NSAIDs use, short bowel syndrome, whipple disease, crohn's disease, food allergies & sensitivities.

Treatment:

- o Prebiotic and probiotic supplementation
- o Supplement hydrochloride, digestive enzymes or other digestive aids
- o Investigate underlying causes
- o Investigate food sensitivities and allergies
- o Remove potential irritants
- o Review markers such as pancreatic elastase 1 and calprotectin

## Parasites/Worms Comment

ELEVATED BLASTOCYSTIS HOMINIS LEVEL:

Blastocystis hominis may be the cause of persistent, mild diarrhoea. Although considered endemic, it may also be associated with recent overseas travel. Detection suggests the ingestion of contaminated material or contact with farm animals. Continued symptoms may require further testing for the detection of bacterial, viral and/or parasitic co-pathogens.

TREATMENT SUGGESTIONS:

Mild symptoms are self-limiting.

If treatment is warranted, metronidazole 400 - 750mg (child 12-17mg/kg up to 750mg) three times daily for at least 10 days. Lower dosages are usually associated with treatment failure.

Paromomycin has also shown to be effective as an alternative treatment option.

Rule out allergy to above medication before prescribing/taking. Consult ID specialist if patient is showing severe symptoms or



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immunocompromised.

### Phyla Microbiota Comment

FIRMICUTES (PHYLUM) ELEVATED:

#### DESCRIPTION:

Firmicutes are a phylum of diverse bacteria which are primarily grouped into classes, Bacilli, Clostridia, Erysipelotrichia and Negativicutes. They are found in various environments, including the intestinal tract, and the group includes some notable pathogens. Firmicutes are involved in energy resorption in the gut microbiome and levels may be affected by diet. Elevated levels and disturbance of gastrointestinal microbiome balance, particularly Firmicutes/Bacteroidetes ratio, have been associated with inflammation, obesity, diabetes and with a high sugar/ fat diet.

TREATMENT SUGGESTIONS: Consider using Bifidobacterium or Saccharomyces containing probiotics. It may also be suggested to optimise the patient diet. A lower fat diet may help to normalize Firmicutes levels.

ACTINOBACTERIA (PHYLUM) ELEVATED:

#### DESCRIPTION:

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 probiotic, demonstrating beneficial effects in many pathological conditions and helps maintain the mucosal barrier and reduce lipopolysaccharide in the intestine. Increased actinobacteria colonisation is usually seen with probiotic use and may be associated with depressive disorders.

TREATMENT SUGGESTIONS: Probiotic use and dietary modification use may assist in the rebalancing of microbial flora.





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## Normal Bacterial Flora Comment

LACTOBACILLUS SPECIES LOW NORMAL:

PHYLUM: Firmicutes

### DESCRIPTION:

Lactobacillus species is below average.

Lactobacillus is a genus of Gram-positive rod-shaped, non-spore-forming bacteria which constitute a significantly important component of the human gastrointestinal system.

Lactobacillus exhibits a mutualistic relationship with the human body, as it protects the host against potential invasions by pathogens, and in turn, the host provides a source of nutrients. Lactobacilli are among the most common probiotic found in food such as yogurt, and it is diverse in its application to maintain gut health and to help treat ailments clinically such as diarrhea and obesity.

Lactobacillus species promote the anti-inflammatory response, thereby supporting the improvement of symptoms pertaining to asthma, chronic obstructive pulmonary disease, neuroinflammatory diseases, cardiovascular diseases, inflammatory bowel disease (IBD) and chronic infections in patients. Reduced levels increase the risk of infections and inflammation. 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 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.

CLOSTRIDIUM SPECIES ELEVATED:

PHYLUM: Firmicutes

### DESCRIPTION:

Clostridium is a genus of anaerobic, Gram-positive bacteria found in the environment and the intestinal tract. This genus includes several species and can utilize large amounts of nutrients that cannot be digested by host and produce short-chain fatty acids (SCFAs), which play a noticeable role in intestinal homeostasis. Colonisation of Clostridium species may be affected by diet (carbohydrate and protein in diet) and general health and may be protective against inflammation and infection. However, some species may act as potential pathogens. Elevated Clostridium species may indirectly damage the intestinal epithelial cells. Another symptom may include constipation.

TREATMENT SUGGESTIONS: Treatment may involve the use of probiotics, treatment of any intestinal infections and dietary modification (reduce consumption of different fibres, such as inulin, oligofructose, arabinoxylan, guar gum and starch).

AKKERMANSIA MUCINIPHILA LOW:

PHYLUM: Verrucomicrobia

### DESCRIPTION:

Akkermansia muciniphila is a Gram-negative, strictly anaerobic, non-motile bacterium, often considered a human intestinal symbiont. There is growing evidence to suggest that the prevalence of this bacteria is associated with intestinal homeostasis, immunity, and a healthy gut. Decreased colonisation levels may be associated with obesity, type 2 diabetes, and inflammation.





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TREATMENT SUGGESTIONS: Treatment may involve the use of probiotics, treatment of any intestinal infections and dietary modification.



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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 subsp. lactis, lactobacillus acidophilus, lactobacillus plantarum, lactobacillus casei, bifidobacterium breve, bifidobacterium bifidum, bifidobacterium longum, lactobacillus 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