PSOMAGEN | GUTBIOME+

Name: **Charles Warden**

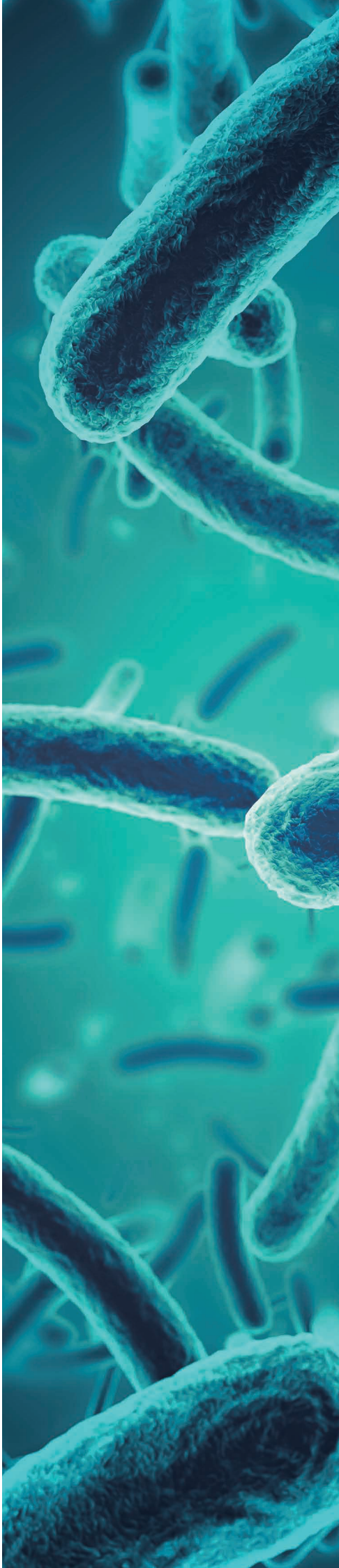
Kit ID: **BBH9684** Test Date: **11/01/2021**

Psomagen GutBiome+

Result Report

PSOMAGEN | GUTBIOME+

Your Gut Microbiome Result Report



This is a comprehensive report, detailing key information about your personal gut microbiome by whole shotgun metagenome sequencing. As new information about the links between the gut microbiome and health are revealed, we will continue to update your online report to include these new findings.

Any information provided by us (including any information contained on our website or in any microbiome report) is for information purposes only. Such information is not medical advice and must not be taken to be a substitute for a consultation with your health care professional or doctor. It is not intended to diagnose condition nor prescribe the use of any remedy, diet or lifestyle practices. Your health is your responsibility and if you have any concerns related to your health, we recommended that you seek the advice of your health care practitioner or doctor.

If you are a health care practitioner and would like to learn more about this informational report, please contact us at help@psomagen.com.

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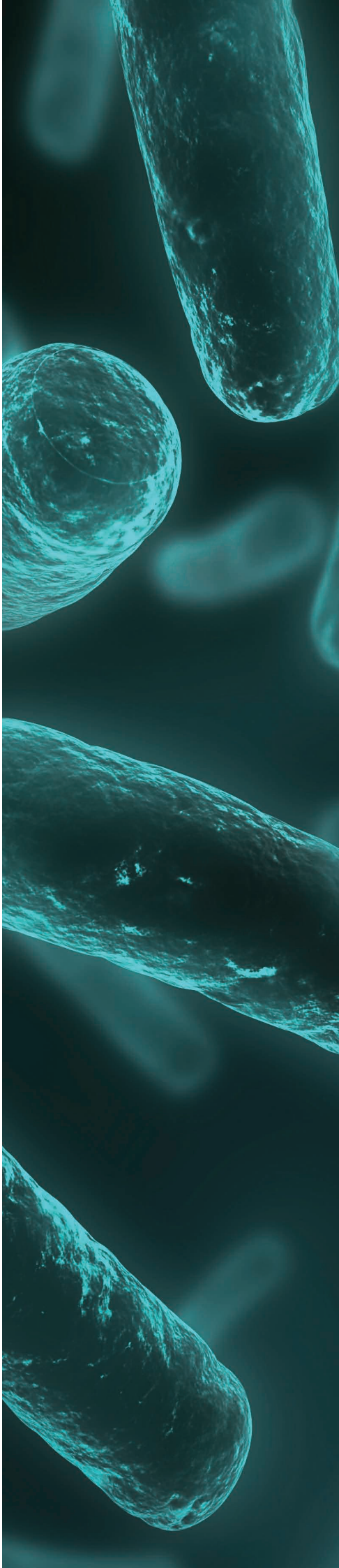
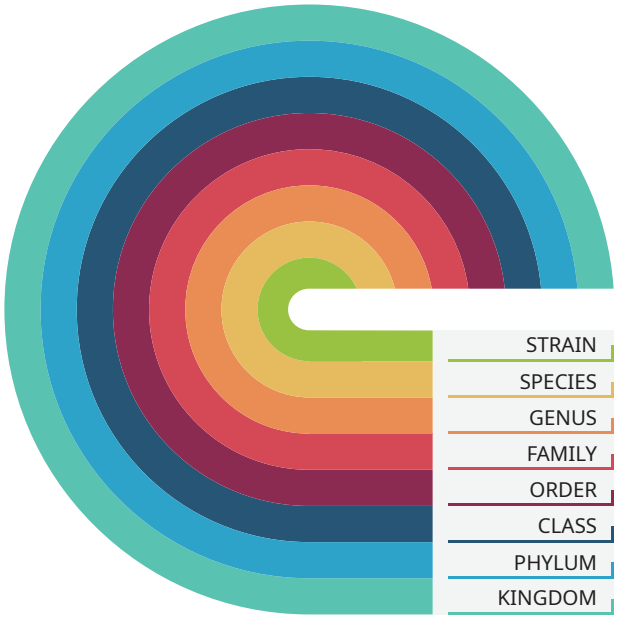
Intro

- Introduction to Microbiome and Taxonomy
- History of the Human Microbiome
- The Gut Microbiome and the Analysis Method
- What is the Difference between GutBiome and GutBiome+ Services?



Introduction to Microbiome and Taxonomy

All living things, including animals, insects, plants, and marine organisms, are closely related to microorganisms. You can't see these microorganisms, but **they are always present in aerosols, water and food, on the desk and bed, etc. In addition, they are colonized in the human body such as the skin, mammary glands, lungs, biliary tract, oral mucosa, saliva, vagina, and gastrointestinal tract (GIT)** (Gupta *et al*., 2017). They form their own ecosystems, or communities, to adapt to the environment of these different habitats. The genomes of microbial community are called the microbiome and are classified according to each habitat such as gut microbiome, skin microbiome, oral microbiome, etc.

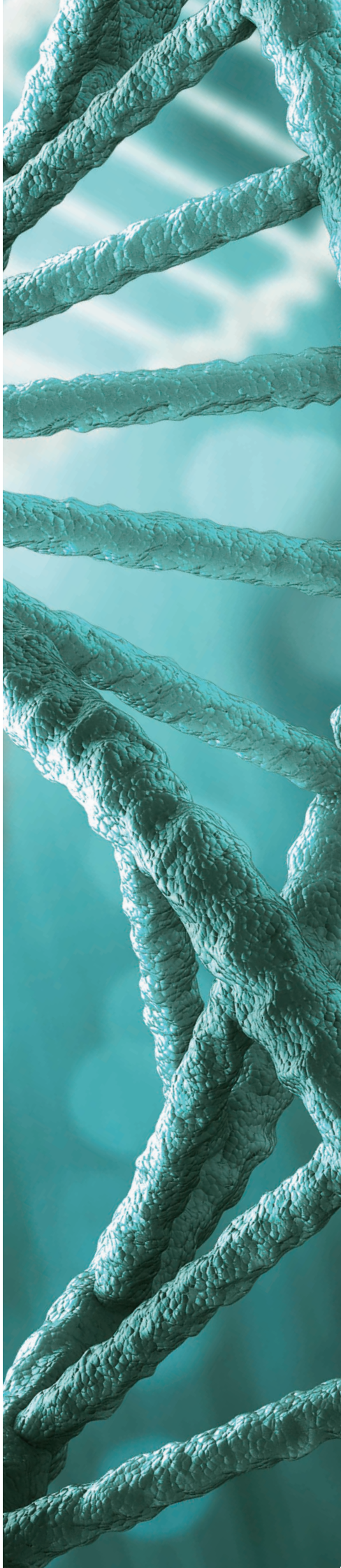


This report provides information on important microorganisms, their metabolites, and pathways in a human body. The taxonomy information shows the scientific classification of all living organisms into hierarchical groups based on their characteristics or evolutionary relatedness. **Bacterial taxonomy** uses the following levels in ascending order: **strain, species, genus, family, order, class, phylum, and domain.**

History of the Human Microbiome

The **Human Genome Project (HGP)**, the world's largest collaborative biological project, officially launched in 1990 and was completed in 2003 (Zwart, 2015). The human genome consists of about 23,000 genes, whereas the microbiome encodes over 3 million genes (Valdes *et al*., 2018). The microorganisms that live inside and on the human body are estimated to be 10 times more than human somatic and germ cells (Turnbaugh *et al*., 2007).

With the development of DNA sequencing technologies, the **Human Microbiome Project (HMP)** was also launched by the National Institute of Health (NIH) and received $215 million from 2007 to 2016 (NIH Human Microbiome Portfolio Analysis Team, 2019). The HMP is explained by 'a logical conceptual and experimental extension of the Human Genome Project' (Turnbaugh *et al*., 2007). The HMP program, organized into two phases (HMP1 and HMP2), focused on identifying human microbial flora (HMP1) and investigating their role in human health and disease states (HMP2) (Proctor *et al*., 2019). By the end of 2017, HMP investigators published over 650 scientific papers that had been cited over 70,000 times (NIH, https://commonfund.nih.gov/hmp).



The Gut Microbiome and the Analysis Method

In the human GIT, there are about 100 trillion microorganisms and consists of bacteria, viruses, fungi, and protozoa (Valdes *et al*., 2018). The gut microbiome plays an important role in the absorption of macronutrients (carbohydrates, proteins, and fats) and micronutrients (vitamins and minerals), and production of enzymes, vitamins, amino acids, and short chain fatty acids (SCFAs). The gut microbiome and their metabolites determine the differential modulation of the innate and adaptive immunity (Kinross *et al*., 2011). Therefore, the gut microbiome is important for human health and disease. The gut microbiome and their metabolites influence weight gain/loss and mediate human mental, neurodegenerative, and neurodevelopment (Lin *et al*., 2012) (Sarkar *et al*., 2016).

This report provides **accurate information about the microbiome composition and bacterial genetic characteristics by** whole metagenomics analysis from stool sample. Whole metagenomics analysis can confirm **the identification and quantification of significant bacterial genes** through shotgun metagenomics sequencing. The scores are calculated as relative values for the Psomagen cohort and provided as a result.

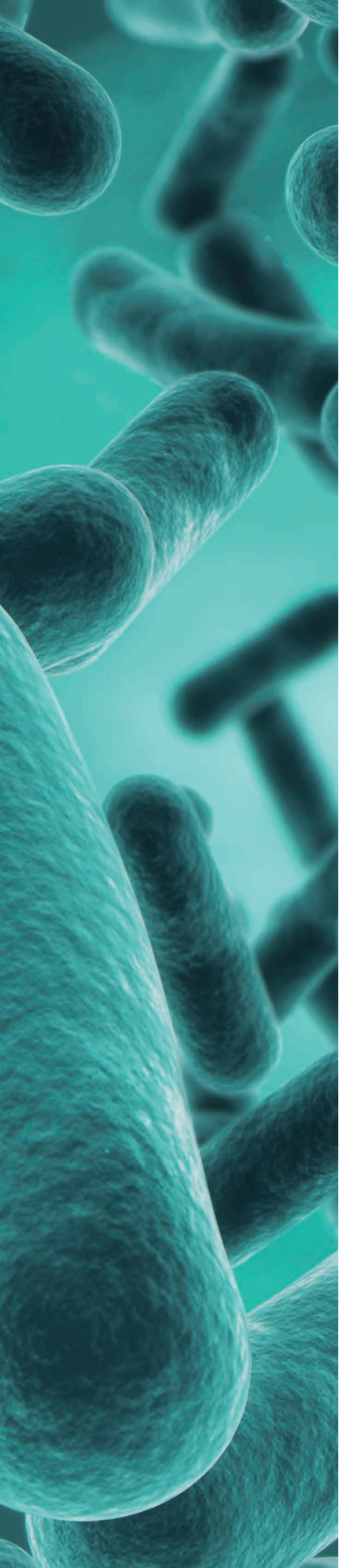
What is the Difference between GutBiome and GutBiome+ Services?

The high-throughput sequencing technology, including 16s rRNA gene or whole metagenome shotgun sequencing, enabled the analysis of very complex samples. The 'Whole Metagenome Shotgun Sequencing' has allowed the genomic analysis and quantification of expression levels of active bacterial gene functions in your gut (Escobar-Zepeda *et al*., 2018).

	GutBiome	GutBiome+
Sample	**Stool**	**Stool**
Target sequencing region	· Bacterial 16s rRNA sequences	**Whole DNA sequences (Also including Human DNA, Archaea, Eukaryote, etc.)**
Platform	· Illumina MiSeq	**· Illumina NovaSeq**
Resolution	· Low · Screening and identification of intestinal bacteria	**· High** **· Identification and quantification of whole genes in the gut**
Gene/functional analysis	· Assumptions based on known references · Does not measure bacterial gene function	**· Novel gene detection** **· Exact estimation of genes and functions**
Plasmids/Phages/Viruses	· Not detectable	**· A certain level detectable**
Computational tools	· Many well developed tool available	**· High variation of tools available or under development**
Host contamination	· Applicable to high host DNA contamination	**· Not only classifiable but also usable as content**
Contributors	· Only identified bacteria	**· Host DNA, Archaea, Eukaryote, etc.** **· Number of bacterial genes and functions; metabolites and pathways**

What is the Difference between GutBiome and GutBiome+ Services?

	GutBiome	GutBiome+
NGS Reads	< 100,000	> 7,000,000
Probiotics Profile	✓	✓
Lifestyle Status	✓	✓
Nutrition Utility	✓	✓
Metabolism	✓	✓
Microbe Profile	-	✓
Sample Composition	-	✓
Completed Microbiome Profile	-	✓
Food / Prebiotics Suggestion	-	✓
Major Metabolites	-	✓
Nutrition / Lifestyle Solution	-	✓
Percentage of Novel Microbes	-	✓



Test Results

- Gut Health Score
- Beneficial vs. Harmful Bacteria
- Probiotics Profile
- Your Gut Type
- Lifestyle Status
- Nutrition Utility
- Metabolic Supply
- Metabolic Concern
- Microbial Diversity
- Microbe Profile

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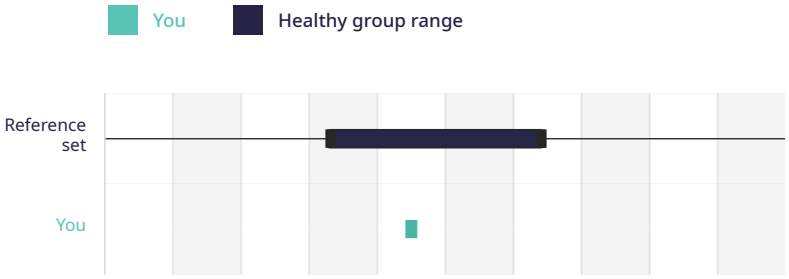
Gut Health Score

This score is an indication of your overall gut health, based on our categories listed below. They are key indicators of gut health, and their contributions to the "Gut Health Score" are weighted based on the scientific evidence that shows the level of influence each one has shown to have on our health. The healthy comparison range for the "Gut Health Score" is **34 ~ 63**



Your Gut Health Score

45

Gut Health Score Contributors

List	Range	You
Butyrate Production	12 ~ 26	9.7
Propionate Production	25 ~ 52	53.6
Acetate Production	58 ~ 75	74.3
Fiber Degradation	61 ~ 76	73.2
Microbial Diversity	60 ~ 81	60.4
IPA Production	0 ~ 2	0.5

List	Range	You
Hexa-acylated LPS Production	0 ~ 1	0.9
Trimethylamine Production	0 ~ 0.1	0.1
Protein Degradation	63 ~ 77	74.3
Human DNA	0 ~ 2	0

Potential to **promote** your health | Potential to **reduce** your health

Probiotics Profile

Here are 16 probiotics that have been recognized for their functions in the gut. They are beneficial for your health if adequate amounts are present in the enteric system, there is a strong possibility that they exist in smaller amounts compared to other gut microbes.
Check which probiotics are currently lacking in your system.

Probiotics Category		Result	Major Characteristics
Bifidobacterium	*animalis*	Detected	Improve bowel movement, reduce eczema, relieve diarrhea
	bifidum	Not detected	Synthesize vitamin group B, prevent acute diarrhea, reduce infection from *E. coli*
	breve	Not detected	Inhibit *Helicobacter* sp., prevent gastric ulcer, enhance immunity, protect from liver toxicity
	longum	Not detected	Lower cholesterol, improve atopy, reduce inflammation in the colon
Lactobacillus	*acidophilus*	Not detected	Gut regulation, anti-cancer effect, lower cholesterol level, synthesize vitamin group B
	casei	Not detected	Produce carbohydrate-degrading amylase, improve lactose intolerance, digestive functions
	fermentum	Not detected	Lower blood sugar, anti-oxidation, inhibit production of lipoperoxide, lower cholesterol
	gasseri	Not detected	Secrete cholesterol lowering factors, inhibit microbes that induce enteric diseases, immunomodulation
	helveticus	Not detected	Prevent arthritis, prevent dementia, decrease opportunistic pathogens
	paracasei	Not detected	Adsorb cholesterol, inhibit growth of pathogens, control allergic reactions
	plantarum	Not detected	Prevent and improve genitourinary infections, improve lactose intolerance
	reuteri	Not detected	Excellent amylolysis activities, defense against pathogens, improve vaginal candidiasis

Probiotics Category		Result	Major Characteristics
Lactobacillus	*rhamnosus*	Not detected	Improve vaginal candidiasis, improve atopy, inhibit *Helicobacter* sp.
	salivarius	Not detected	Enhance immunity, eliminate halitosis, inhibit *Salmonella* sp.
Lactococcus	*lactis*	Not detected	Stability against live bacteria, inhibit growth of pathogens
Streptococcus	*thermophilus*	Not detected	Improve lactose intolerance, enhance immunity

How to Utilize Your Results

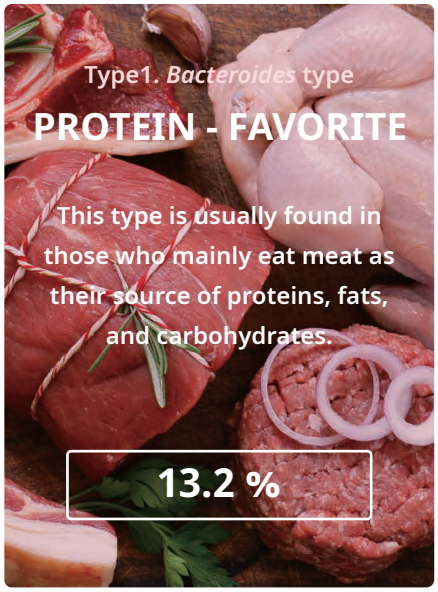
As the gut microbiome environment differs among people, it is hard to expect the same effect from one product for everyone. Check the probiotic strains your system lack and find the right probiotics product for you.

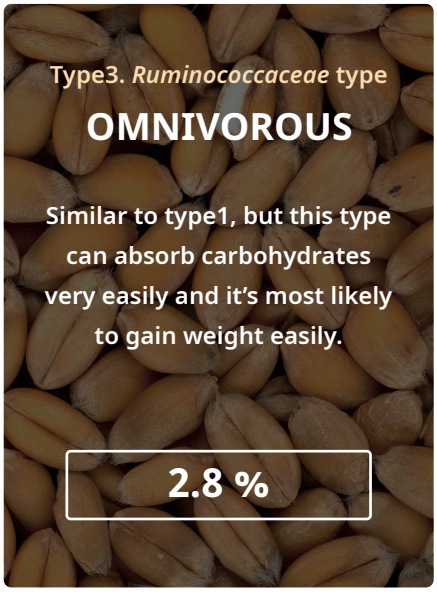
Just like regular health check-ups, the constant monitoring of your gut environment and the supplementation of insufficient probiotics make managing your health easier.

People with recent history of gastrointestinal surgery, gastrointestinal bleeding or perforation, and/or patients with immune system abnormalities may experience side effects from ingestion of probiotics. Therefore, consulting with a board-certified doctor is highly recommended before consumption of supplements.

Your Gut Type

Even gut microbes have their favorite foods. Therefore, the distribution of your gut microbial environment is influenced by your eating habits. The enteric, or gut, system can be largely categorized into three types regardless of age or gender.
Check your gut type to review eating habits and learn what food you should eat to improve it!

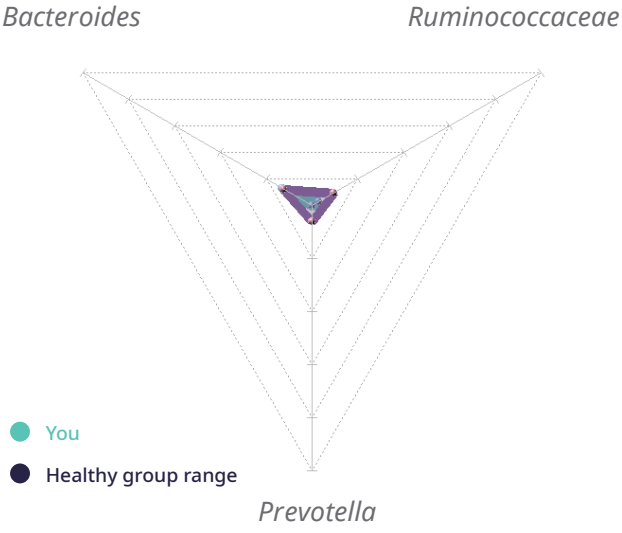




Type 1 *Bacteroides* type

PROTEIN - FAVORITE

As a Type 1 *Bacteroides*, it is highly possible that you have mainly eaten meat as your source of protein and fat, and ate fewer vegetables. But the *Bacteroides* type can easily produce biotin, which aids in energy metabolism, and if the following recommendations are met, you can maintain a healthy body.



	You	Average
Bacteroides	13.2 %	12.2 %
Prevotella	0 %	6 %
Ruminococcaceae	2.8 %	9.5 %

Your Gut Type Solution

Eat a plate of vegetables a day

When eating meat, try to accompany it with a salad. How about eating some cucumbers, carrots, or broccoli with your favorite dip as a healthy snack option?

Control intake ratio

If you are eating in the order of meat > grains > vegetables, changing the order to vegetables > meat > grains This not only helps to control calories, but also to maintain healthy eating habits.

Reduce calorie intake

Having meat-centric meals can easily make you take in many more calories than average. Try reducing the amount of meat by 1/3 of what you normally eat.

Your Sub Gut Type

Type 2 *Prevotella type*

FIBER - FAVORITE

If you are Type 2 *Prevotella,* it is very possible that you eat more dietary fiber with a vegetable diet and less meat. *Prevotella* helps synthesize thiamine, a vital vitamin, leading to a relatively low chance of discomfort caused by chronic fatigue or poor concentration. However, the *Prevotella* type who has a high chance of stomachache, should be careful about daily food intake and comply with the following recommendations.

Maintain a balanced diet with the three main nutrients

Do you usually eat a balanced diet with carbohydrates, fats, and proteins?
If not, why don't you eat a variety of food from now on?

Get essential fatty acids

Omega-3 and omega-6 are essential fatty acids that our body cannot synthesize and must be ingested from a diet. They can be ingested from tuna, mackerel, nuts, and perilla seed oil.

Get essential amino acids

Eight of the amino acids, the building blocks of proteins, cannot be synthesized in our body and must be ingested from a diet. They can be ingested from meat.

Type 3 *Ruminococcaceae* type

OMNIVOROUS

If you are a Type 3 *Ruminococcaceae*, it is very possible that you eat more carbohydrates such as rice, bread, rice cakes, and fewer vegetables. *Ruminococcaceae* helps absorb carbohydrates and convert them to fats, leading to a high risk of obesity. However, the *Ruminococcaceae* type can get better with a change of eating habits. If you follow the recommendations below, you can stay healthy.

Control your carbohydrate intake

Since you are eating more carbohydrates than other nutrients, try lowering the intake. Abstaining from fruits and snacks after meals will also help.

Control the types of carbohydrates

Processed food such as rice cakes, soup, and bread rapidly raise the blood sugar level, causing obesity and various metabolic disorders. Reduce processed food intake a little bit.

Eat dietary fiber

Eating multi-grain and various vegetables that are rich in dietary fiber enables you to kill two birds with one stone. There is an increase in dietary fiber intake with satiation and a decrease in carbohydrates intake.

Lifestyle Status

The knowledge that the gut microbes influence our health has transformed into significant lifestyle pursuits. Links between the central nervous system and the gut microbes may contribute to conditions such as depression and fatigue. The microbiome-gut-brain axis also regulates your sleep and appetites.
This score reflects the functionality of your gut microbial system. It would promote an optimal balance and influence of probiotics and beneficial, commensal and pathogenic bacteria in your lifestyle and mental health.
A high score indicates good balance of microbes in your system.

Total Score

60

The **"healthy"** comparison range for the "Lifestyle Status Score" is **33 ~ 67**

Behavior

Gut microbes play a role in regulating the function of the brain, nervous system, and mental health.

List	Range	You
GABA Production	8 ~ 33	47.6
IPA Production	0 ~ 2	0.5
Vitamin B9 Production	34 ~ 58	54

Fatigue

Fatigue and tiredness are symptoms of many body system disorders.
A disturbed gut microbiota and decrease of pH by abnormally enriched lactic acid bacteria may lead to elevate levels of fatigue.

List	Range	You
D-Lactic acid Production	22 ~ 49	57.8

Potential to **promote** your health | Potential to **reduce** your health

Lifestyle Status

Sleep

Gut microbes can help you get a good night's sleep by generating GABA or by generating some metabolites that promote the serotonin production of your body.

List	Range	You
Butyrate Production	12 ~ 26	9.7
GABA Production	8 ~ 33	47.6
Propionate Production	25 ~ 52	53.6

Healthy Weight

Some microorganisms affect your weight by producing metabolites that help control your appetite or by affecting your calorie harvest.

List	Range	You
Butyrate Production	12 ~ 26	9.7
Propionate Production	25 ~ 52	53.6
Methane Production	0 ~ 0.2	0

Potential to **promote** your health | Potential to **reduce** your health

Nutrition Utility

After you eat a meal, food gets broken down in your stomach and travels to your small intestine, where most nutrients are absorbed. The food components that cannot be absorbed in the small intestine, such as fiber and excess protein, make their way to your intestine where your gut microbiota break down these components into small molecules that are used by the host and other gut microbes.
This score reflects your gut microbial functions that contain multiple activities related to digestion, as well as specific macronutrient break down ability. A high score indicates that the activities supporting the digestion system are high in your microbiome.

Total Score

42

The **"healthy"** comparison range for the "Nutrition Utility Score" is 20 ~ 68

Fiber Break Down

In comparison to the "healthy" group, it is considered beneficial when a similar or higher proportion of species that can break down fiber is detected. Fiber-consuming bacteria are responsible for producing important by-products like short chain fatty acids, which play a critical role in keeping the gut health. Prebiotic fibers can promote the growth of beneficial bacteria.

List	Range	You
Fiber Degradation	61 ~ 76	73.2

Protein Break Down

Most protein is absorbed by your body, however excess protein will pass on to the intestine, where it is available to the gut microbiome. Microorganisms that break down these proteins produce a variety of compounds, including some compounds that promote inflammation. If there is a high proportion of species that break down protein in the microbiome, make sure there is sufficient fiber in the diet and consider avoiding excessive consumption of protein.

List	Range	You
Protein Degradation	63 ~ 77	74.3

Potential to **promote** your health | Potential to **reduce** your health

Nutrition Utility

Starch Break Down

Low digestible carbohydrates including xylo-oligosaccharides (XOS), galacto-oligosaccharides (GOS) and fructans, inulin and fructo-oligosaccharides (FOS) are considered prebiotics factors. Some bacteria in the intestine can digest these carbohydrates and provide beneficial effects to human as a symbiotic relationship.

List	Range	You
Starch Degradation	61 ~ 76	73.2

Alcohol Metabolism

Excessive drinking has harmful effects on health by increasing the risk of many conditions involving varied organs and/or systems. Gut microbiota has been involved in the alcohol-related conditions and the prevention of these conditions. Several genes related to alcohol degradation in the gut microbiota are used as markers for alcohol metabolism utility.

List	Range	You
Alcohol Degradation	8 ~ 21	14.9
Formaldehyde Degradation	51 ~ 70	47.8

Oxalate Consumption

Calcium oxalate is related with kidney stone. People who suffer from recurring, unexplained kidney stones have been observed to have a reduced level of genes for oxalate degradation in their microbiome compared to healthy people.

List	Range	You
Oxalate Consumption	6 ~ 19	4.7

Metabolic Supply

The gut microbiome is a key producer of some essential nutrients such as minerals, vitamins, and short chain fatty acids (SCFAs). These essential nutrients could be an energy source to the intestinal epithelial cells and affect the human metabolism. Additionally, a number of micronutrients are known to serve as antioxidants.
This score indicates your gut microbial functions that lead to the production of nutrients known to beneficially affect many wellness areas.
A high score means specific metabolizing activities are high in your microbiome.

Total Score

66

The **"healthy"** comparison range for the "Metabolic Supply Score" is23 ~ 67

GABA & IPA Production

Gut microbes produce (and consume) some important signaling molecules (called neurotransmitters) such as γ-aminobutyric acid (GABA), and indolepropionic acid (IPA). GABA & IPA influence your brain and regulate mood, appetite, and sleep.

List	Range	You
GABA Production	8 ~ 33	47.6
IPA Production	0 ~ 2	0.5

Butyrate Production

Butyrate is a short chain fatty acid and is the main fuel source for gut cells, helps keep the gut cell barrier intact, can reduce inflammation, helps control appetite, and stimulates the production of serotonin from gut cells.

List	Range	You
Butyrate Production	12 ~ 26	9.7

Potential to **promote** your health | Potential to **reduce** your health

Metabolic Supply

Lactate Production

Lactate can reduce inflammation and helps keep the gut cell barrier intact. Some microbes can also convert lactate to the beneficial short chain fatty acids: acetate, propionate, and butyrate.

List	Range	You
Lactate Production	29 ~ 62	61.8

Propionate Production

Propionate helps maintain blood glucose levels, can reduce inflammation, helps control appetite and can stimulate the production of serotonin.

List	Range	You
Propionate Production	25 ~ 52	53.6

Vitamin Production

Vitamins are essential micronutrients and have biological effects on health by reducing the risk of infectious, inflammatory, and allergic response. For the prevention of vitamin deficiency, vitamins need to be provided sufficiently from diet, as well as gut microbiota.

List	Range	You
Vitamin B2 Production	29 ~ 58	52
Vitamin B7 Production	22 ~ 51	37.9
Vitamin B9 Production	34 ~ 58	54
Vitamin B12 Production	18 ~ 48	24.5
Vitamin K Production	1 ~ 9	25

Potential to **promote** your health | Potential to **reduce** your health

Metabolic Supply

Branched Chain Amino Acids Production

Branched chain amino acids (BCAAs) are building blocks for muscles. They are involved in the regulation of glucose and fat metabolism, and are involved in the regulation of the immune system.

List	Range	You
IPA Production	0 ~ 2	0.5
BCAAs Production	42 ~ 70	67.4

Metabolic Concern

Gut microbe and the immune system are constantly shaping each other in a mutual aim to: keep away from various harmless substances, make our body tolerate food molecules, recognize invaders, and protect against pathogens in the intestine.
This score represents your gut microbial function that stimulate unnecessary immune response by producing non-beneficial metabolites or using up beneficial metabolites.
A high score means beneficial/non-beneficial metabolites balance is unstable by dysbiosis.

Total Score

54

The **"healthy"** comparison range for the "Metabolic Concern Score" is 41 ~ 69

Inflammation

Some microbial metabolites promote inflammatory response. The excessive inflammatory responses could introduce health issues.

List	Range	You
Acetate Production	58 ~ 75	74.3
Butyrate Production	12 ~ 26	9.7
Lactate Production	29 ~ 62	61.8
Propionate Production	25 ~ 52	53.6
Vitamin B9 Production	34 ~ 58	54
Ammonia Production	2 ~ 9	1.7
Histamine Production	0 ~ 1	0.6
Human DNA	0 ~ 2	0
Hexa-acylated LPS Production	0 ~ 1	0.9
Protein Degradation	63 ~ 77	74.3

Potential to **promote** your health | Potential to **reduce** your health

Metabolic Concern

Gas

As the microbes in your gut digest the fiber and the excess protein you consume, they produce different types of gases as a by-product. Flatulence is primarily made up of odorless gases such as nitrogen, hydrogen, carbon dioxide, and methane. A small percent of flatulence is made up of the gas hydrogen sulfide, which gives flatulence the characteristic rotten eggs smell.

List	Range	You
Ammonia Production	2 ~ 9	1.7
Hydrogen Sulphide Production	1 ~ 6	12.1
Methane Production	0 ~ 0.2	0

TMAO Production

Even though the role of Trimethylamine N-oxide (TMAO) is still unclear, increased TMAO levels have been observed in individuals with certain health issues.

List	Range	You
Trimethylamine Consumption	0 ~ 0.3	0.2
Trimethylamine Production	0 ~ 0.1	0.1

GABA Consumption

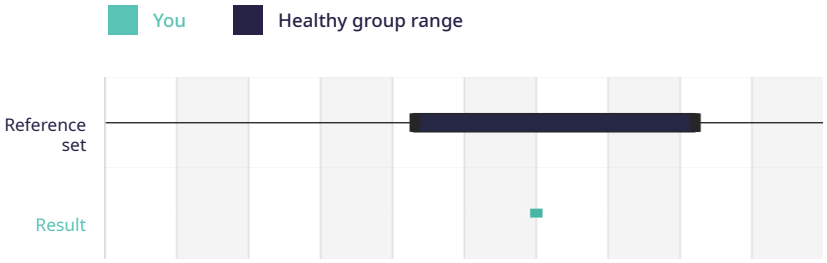
γ-Aminobutyric acid (GABA) is an important neurotransmitter that can reduce feelings of anxiety and depression. In addition to producing GABA, gut microbiota can also consume GABA. The balance of production and consumption of GABA by gut microbes is an active area of research.

List	Range	You
GABA Consumption	1 ~ 5	1.1

Potential to **promote** your health | Potential to **reduce** your health

Microbial Diversity

Microbial diversity is a measure of both the different types and the amount of bacterial species in your samples. A varied diet rich in plant-based foods, such as fruits, vegetables, whole grains and nuts, is associated with increased microbial diversity. Low microbial diversity is often associated with poor health.



Your Microbial Diversity Score

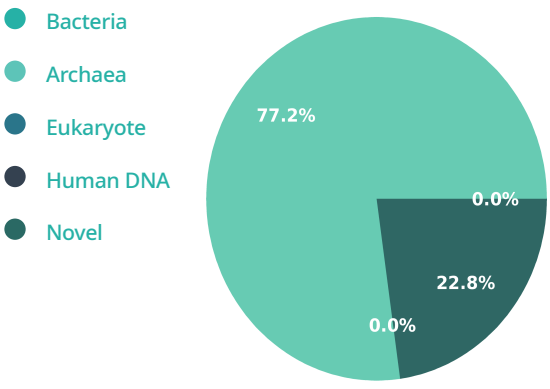
60

Sample Composition

Most of the DNA in your stool (~99%) is from the microorganisms in your gut and only a small amount (~1%) is from you, the host.

The microorganisms in your gut fall into four main groups: bacteria, archaea (another form of microscopic life), eukaryotes (this includes fungi and parasites), and viruses. Below, we show the levels of bacteria, archaea, eukaryotes, and novel (unidentifiable) DNA in your sample.

The amount of human DNA in your sample is also shown. A high amount (great than 4%) of human DNA may indicate gut inflammation. If you have greater than 4% of human DNA, and you did not accidentally touch your swab during sample collection, you should consult with a health care provider.



List	Range	You	Level
Bacteria	64.1~77.7	77.2	AVERAGE
Archaea	0.0~0.2	0.0	AVERAGE
Eukaryote	0.0~0.0	0.0	AVERAGE
Human DNA	0.0~1.7	0.0	LOW
Novel	22.3~35.8	22.8	AVERAGE

Microbe Profile

Complete Microbiome Profile

Below is a list of each species detected in your microbiome, in order of abundance.
Some microbes have been associated with health outcomes in scientific studies, while little is known about some others.

Everybody's microbiome composition is different and science tells us that the functional capacity of the microbiome is more important than which species inhabit it.

Phylum	Species	Range	You	Level
Actinobacteria	*Adlercreutzia sp*	0 ~ 0.2 %	0.3 %	HIGH
Actinobacteria	*Bifidobacterium animalis*	0 ~ 0.2 %	0.1 %	AVERAGE
Actinobacteria	*Eggerthella lenta*	0 ~ 0.1 %	0.2 %	HIGH
Ascomycota	*Candida albicans*	0 ~ 0.0 %	0.0 %	AVERAGE
Ascomycota	*Galactomyces candidus*	0 ~ 0.0 %	0.0 %	AVERAGE
Ascomycota	*Saccharomyces cerevisiae*	0 ~ 0.0 %	0.0 %	AVERAGE
Bacteroidetes	*Alistipes finegoldii*	0 ~ 1.0 %	0.7 %	AVERAGE
Bacteroidetes	*Alistipes obesi*	0 ~ 0.9 %	0.6 %	AVERAGE
Bacteroidetes	*Alistipes onderdonkii*	0 ~ 1.7 %	20.3 %	HIGH
Bacteroidetes	*Alistipes putredinis*	0 ~ 4.4 %	1.6 %	AVERAGE
Bacteroidetes	*Alistipes shahii*	0 ~ 1.7 %	2.1 %	HIGH
Bacteroidetes	*Alistipes_A indistinctus*	0 ~ 0.1 %	0.4 %	HIGH
Bacteroidetes	*Alistipes_A prausnitzii*	0 ~ 0.1 %	0.6 %	HIGH
Bacteroidetes	*Bacteroides caccae*	0 ~ 0.9 %	1.7 %	HIGH
Bacteroidetes	*Bacteroides nordii*	0 ~ 0.0 %	0.4 %	HIGH
Bacteroidetes	*Bacteroides ovatus*	0 ~ 1.0 %	0.3 %	AVERAGE
Bacteroidetes	*Bacteroides stercoris*	0 ~ 4.0 %	3.4 %	AVERAGE
Bacteroidetes	*Bacteroides uniformis*	0 ~ 7.7 %	4.9 %	AVERAGE
Bacteroidetes	*Bacteroides_B vulgatus*	0 ~ 4.9 %	2.5 %	AVERAGE
Bacteroidetes	*Butyricimonas virosa*	0 ~ 0.1 %	0.5 %	HIGH
Bacteroidetes	*Odoribacter splanchnicus*	0 ~ 0.4 %	0.3 %	AVERAGE
Blastocystis	*Blastocystis sp. DMP/02-328*	0 ~ 0.0 %	0.0 %	AVERAGE
Blastocystis	*Blastocystis sp. subtype 1*	0 ~ 0.0 %	0.0 %	AVERAGE
Blastocystis	*Blastocystis sp. subtype 3*	0 ~ 0.0 %	0.0 %	AVERAGE
Blastocystis	*Blastocystis sp. subtype 4*	0 ~ 0.0 %	0.0 %	AVERAGE
Desulfobacterota	*Bilophila wadsworthia*	0 ~ 0.3 %	0.2 %	AVERAGE
Firmicutes	*CAG-302 sp*	0 ~ 0.0 %	1.3 %	HIGH
Firmicutes	*Eubacterium_D sp1*	0 ~ 0.0 %	0.2 %	HIGH
Firmicutes_A	*Anaerotruncus sp*	0 ~ 0.0 %	0.5 %	HIGH
Firmicutes_A	*Blautia producta_A*	0 ~ 0.0 %	0.1 %	HIGH

Microbe Profile

Complete Microbiome Profile

Below is a list of each species detected in your microbiome, in order of abundance.
Some microbes have been associated with health outcomes in scientific studies, while little is known about some others.

Everybody's microbiome composition is different and science tells us that the functional capacity of the microbiome is more important than which species inhabit it.

Phylum	Species	Range	You	Level
Firmicutes_A	*Blautia_A sp*	0 ~ 0.5 %	0.1 %	AVERAGE
Firmicutes_A	*Blautia_A sp*	0 ~ 0.6 %	0.2 %	AVERAGE
Firmicutes_A	*CAG-110 sp*	0 ~ 0.2 %	1.8 %	HIGH
Firmicutes_A	*CAG-110 sp*	0 ~ 0.3 %	0.3 %	HIGH
Firmicutes_A	*CAG-314 sp*	0 ~ 0.3 %	1.8 %	HIGH
Firmicutes_A	*CAG-41 sp*	0 ~ 0.0 %	0.3 %	HIGH
Firmicutes_A	*CAG-83 sp*	0 ~ 0.4 %	0.3 %	AVERAGE
Firmicutes_A	*Clostridium_A leptum*	0 ~ 0.0 %	0.1 %	HIGH
Firmicutes_A	*D16 sp*	0 ~ 0.0 %	0.1 %	HIGH
Firmicutes_A	*D5 sp*	0 ~ 0.0 %	0.4 %	HIGH
Firmicutes_A	*Flavonifractor plautii*	0 ~ 0.2 %	0.2 %	HIGH
Firmicutes_A	*Flavonifractor sp*	0 ~ 0.0 %	0.4 %	HIGH
Firmicutes_A	*Intestinimonas massiliensis*	0 ~ 0.0 %	0.6 %	HIGH
Firmicutes_A	*Neglecta sp1*	0 ~ 0.9 %	1.3 %	HIGH
Firmicutes_A	*Oscillibacter sp*	0 ~ 0.2 %	0.2 %	AVERAGE
Firmicutes_A	*Oscillibacter sp*	0 ~ 0.3 %	0.2 %	AVERAGE
Firmicutes_A	*Oscillibacter sp6*	0 ~ 0.3 %	0.3 %	HIGH
Firmicutes_A	*Ruminiclostridium_E siraeum*	0 ~ 1.8 %	1.1 %	AVERAGE
Firmicutes_A	*Ruminococcus_B torques*	0 ~ 0.3 %	0.3 %	AVERAGE
Firmicutes_A	*Ruminococcus_D bicirculans*	0 ~ 2.7 %	0.1 %	AVERAGE
Firmicutes_A	*Ruthenibacterium lactatiformans*	0 ~ 0.0 %	0.4 %	HIGH
Firmicutes_A	*Ruthenibacterium sp*	0 ~ 0.0 %	0.3 %	HIGH
Firmicutes_A	*Ruthenibacterium sp*	0 ~ 0.0 %	0.1 %	HIGH
Firmicutes_A	*UBA1191 sp*	0 ~ 0.1 %	0.1 %	HIGH
Firmicutes_A	*UBA1685 sp*	0 ~ 0.0 %	2.3 %	HIGH
Firmicutes_A	*UBA1691 sp*	0 ~ 0.0 %	1.7 %	HIGH
Firmicutes_A	*UBA4263 sp*	0 ~ 0.2 %	0.4 %	HIGH
Firmicutes_A	*UBA5446 sp*	0 ~ 0.0 %	0.2 %	HIGH
Firmicutes_A	*UBA7096 sp*	0 ~ 0.0 %	0.2 %	HIGH
Firmicutes_C	*Dialister invisus*	0 ~ 0.6 %	0.2 %	AVERAGE

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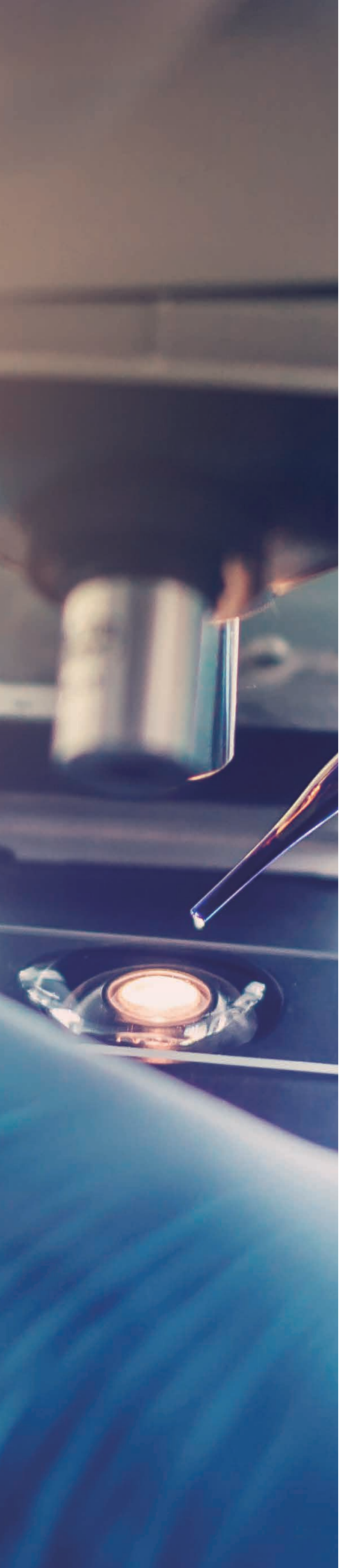
Everybody's microbiome composition is different and science tells us that the functional capacity of the microbiome is more important than which species inhabit it.

Phylum	Species	Range	You	Level
Mucoromycota	*Lichtheimia hongkongensis*	0 ~ 0.0 %	0.0 %	AVERAGE
Nematoda	*Enterobius vermicularis*	0 ~ 0.0 %	0.0 %	AVERAGE
Proteobacteria	*Escherichia coli*	0 ~ 0.5 %	1.0 %	HIGH
Proteobacteria	*Parasutterella excrementihominis*	0 ~ 0.4 %	0.4 %	AVERAGE
Verrucomicrobia	*Akkermansia sp*	0 ~ 0.0 %	7.7 %	HIGH



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Supplement

- References

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