Biome Innovation®
Gut-Health Microbiome Specialist

PetBionic®

GutInnovation Microbiome Test Report for Tommy

Sample Report



This report prepared By

R&D Team

Biome Innovation Australia

Date: 01/03/2026

Understanding of Gut-Microbiome

Sample Report

What is Gut-microbiome

The gut microbiome is a highly complex and responsive biological system made up of a wide range of microorganisms. This community includes diverse populations of bacteria, fungi, and archaea that coexist within the gastrointestinal tract and play a fundamental role in maintaining your pet's internal balance.

These microorganisms interact continuously with the host and with each other, influencing multiple physiological processes. Their collective activity contributes to digestion and nutrient absorption, immune regulation, neurological signalling, and cardiovascular health, ultimately supporting overall wellbeing.

Because this ecosystem contains an enormous diversity of species, even small disruptions—often driven by dietary changes—can alter microbial balance and negatively affect health. Gaining insight into the composition of the gut microbiome therefore provides valuable information, helping to identify targeted dietary adjustments and supportive supplementation strategies that may enhance digestive function and long-term health outcomes.

Good Gut Bacteria

Make vitamins and allow minerals to be absorbed
Mend the gut wall and prevent ulcers and inflammation
Defend against the invasion of bad bacteria Increase energy and promote a good immune response.

The Bad Gut Bacteria

Cause disease -colitis, IBD, SIBO, gastritis, inflammation food sensitivities and allergies. Create imbalances, triggered by changes in diet, stress, commonly used medication, including the use of antibiotics and pain medication.

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The PetBionic Gut-Microbiome Test Report

This report is an analysis of the 16S rRNA gene which is present in all bacteria and is the most accurate method of identifying bacterial species. It provides a real time snapshot of the hindgut microbial community of your dog.

Whilst the test is a powerful management and analytical tool, it is not intended to be used to diagnose any illness, please consult your vet if your dog is in discomfort. To generate this report The Illumina MiSeq is used, which is the most accurate and up to date technology, chosen by genomic researchers around the world.

In dogs, the knowledge and science linking microbiome to health and disease, are in their infancy. In humans this area of science is much more advanced because of the larger database of samples. It is our aim to gather as many samples of different groups (populations) of dogs as we can, this will help to increase our knowledge and put it in line with human research, offering the best and most accurate service.

The Biome Innovation Data Bank

We have the largest library of canine microbiome data in the world, used to identify and accurately describe the healthy biome. The data base consists of faecal samples from dogs of all ages and breeds. We then profile the microbiome using artificial intelligence and population data. Since 2007 we have collected thousands of samples from dogs with obesity, allergies,

arthritis, gastric discomfort, inflammatory bowel disease, diarrhoea and more. We have also profiled the microbial communities of dogs on different diets and work with many vet practices profiling disease and dysbiosis. The use of long term medication can have a profound effect on the microbiome most commonly antibiotics, anthelmintics, steroids and non steroidal anti-inflammatories, use of these medications has the effect of reducing diversity, we have worked for many years on how to restore the extensive and diverse microbial community through dietary management and the use of plant compounds and secondary metabolites.

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Health Background of Tommy

Sample Report

Pet Information

Species:	Dog	**Sex:**	Female
Age:	7 years	**Weight:**	45 lbs
Breed:	Border Collie, Poodle	**Spayed/Neutered:**	Yes
Body Condition:	Score 5/9	**Fecal Consistency:**	Score 2
Collection Date:	28/04/2025	**Location:**	Melbourne, AU
Sample Type:	Fecal	**Owner ID:**	OWD123

Medical & Health Details

Antibiotics:	Not reported
Medications:	Hormones
Supplements:	Probiotics, bacterial
AnimalBiome Supplements:	Not reported
Diet:	Prescription | Dry Kibble
Pet Food Details:	Not reported
Diagnosed Conditions:	Other
Condition Notes:	Urinary incontinence
Current Symptoms:	Stiff or painful joints | Mild | Sometimes, 1x a day
Symptoms Notes:	No notes were provided upon sample registration.
Comments:	Not specified

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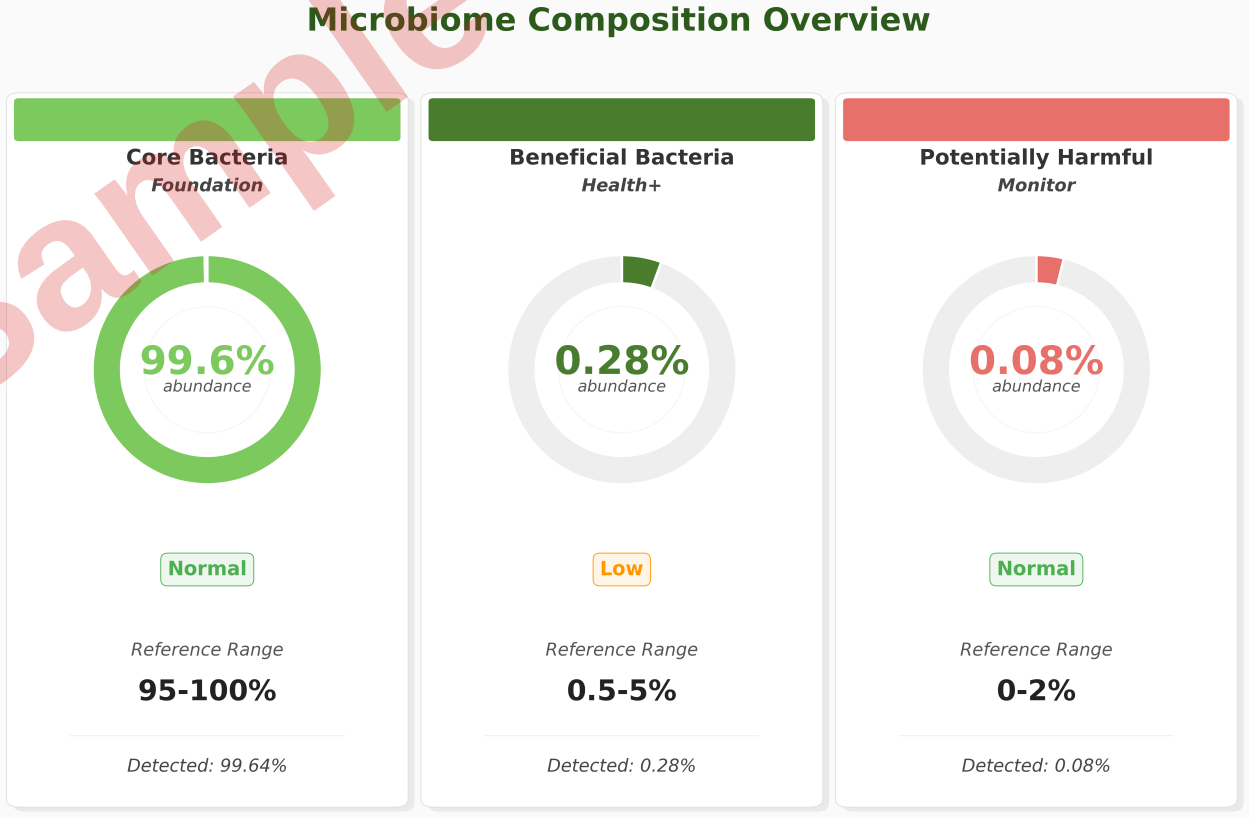
Gut-Microbiome Analysis of Tommy

Sample Report

Microbiome Composition

About This Chart: Each card displays one of the three bacterial categories detected in your pet's gut — **Core Bacteria** (the essential foundation), **Beneficial Bacteria** (health-promoting organisms), and **Potentially Harmful Bacteria** (species to monitor). The ring gauge shows the detected abundance as a proportion of the category's reference maximum. The **Status badge** (Normal / Low / High) is determined by comparing the detected percentage against the healthy reference range shown below each gauge. A well-balanced microbiome typically shows Core bacteria dominating at 95–100%, with a small Beneficial fraction and minimal Harmful bacteria.

Microbiome Composition Overview



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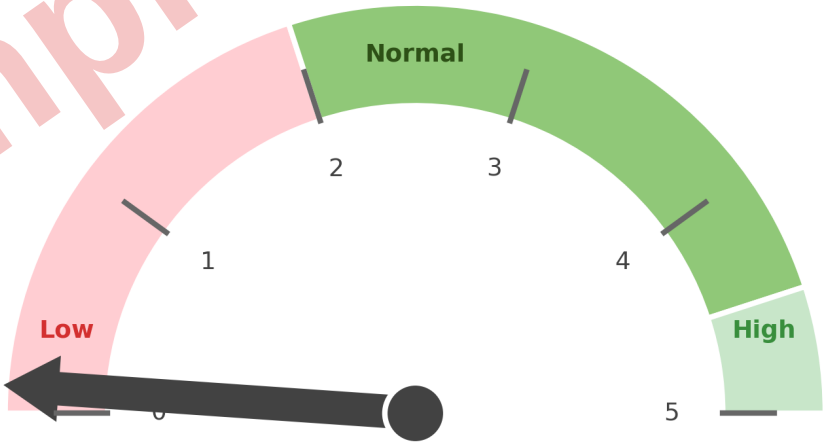
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Gut-Microbiome Analysis of Tommy

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Microbial Diversity

About This Chart: The **Shannon Diversity Index** (H) quantifies how evenly bacterial species are distributed across your pet's gut. The semi-circular gauge is divided into three zones: **Low** (H < 2.0, red zone — limited variety), **Normal** (H 2.0–4.5, green zone — healthy diversity), and **High** (H > 4.5, light-green zone — very broad diversity). The pointer indicates your pet's current score. A higher index generally reflects a more resilient microbiome that can better withstand dietary changes, antibiotic exposure, and pathogen challenge. Low scores may warrant dietary review or probiotic support — please consult your veterinarian.



0.11

Shannon Diversity Index

Healthy Range: 2.0 - 4.5

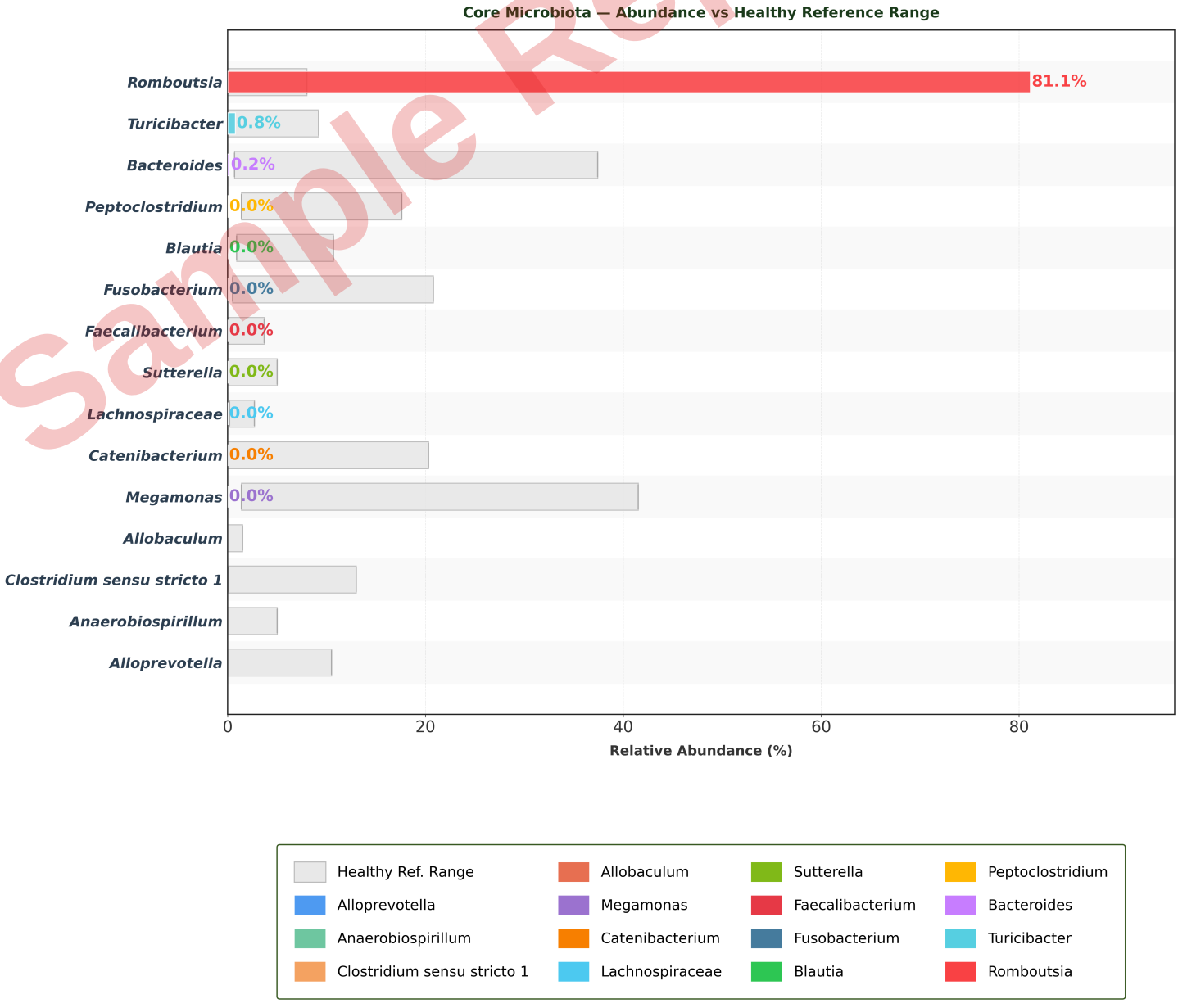
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Core Bacteria Distribution

About This Chart: Each coloured bar shows a Core bacterium's detected abundance; the grey region behind it marks the healthy reference range. Bar colour matches the right-hand legend for easy identification. A bar extending beyond the grey zone indicates an elevated level worth monitoring.



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Core Microbiota (Top 15)

Sample Report

Core Microbiota (Top 15)

Top 15 most abundant core microbiota species observed in gut microbiome analysis. These bacteria form the foundation of a healthy gut microbiome.

Understanding Core Microbiota Table

This table shows the essential bacterial species that form the foundation of your pet's gut microbiome. Core bacteria are naturally present in healthy pets and play vital roles in digestion, nutrient absorption, and immune function.

Bacteria	Function/Impact	Range (%)	Abundance (%)	Status
Romboutsia	Contributes to carbohydrate metabolism and maintenance of gut balance.	0.0 - 8.0	81.14	High
Turicibacter	Involved in carbohydrate metabolism and SCFA production; may protect against colon cancer.	0.0 - 9.2	0.76	Normal
Bacteroides	Breaks down complex carbohydrates; contributes to nutrient absorption and balanced gut flora.	0.7 - 37.4	0.18	Low
Peptoclostridium	Protects against intestinal pathogens including C. difficile and E. coli; supports healthy immunity.	1.4 - 17.6	0.03	Low
Blautia	Produces anti-inflammatory SCFAs; protects the gut from chronic inflammation.	0.9 - 10.7	0.02	Low
Fusobacterium	Aids digestion of animal proteins; abundant in healthy dogs but excess may lead to diarrhea.	0.5 - 20.8	0.02	Low
Faecalibacterium	Produces butyrate; controls inflammation and protects against colorectal diseases.	0.1 - 3.7	0.01	Low

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Core Microbiota (Top 15)

Core Microbiota (Top 15) (continued)

Top 15 most abundant core microbiota species observed in gut microbiome analysis. These bacteria form the foundation of a healthy gut microbiome.

Sample Report

Bacteria	Function/Impact	Range (%)	Abundance (%)	Status
Sutterella	Supports immune function; high levels linked to diarrhea and food sensitivities.	**0.0 - 5.0**	0.01	Normal
Lachnospiraceae	Produces SCFAs; may become abundant in obesity and reduce anti-inflammatory capacity.	**0.2 - 2.7**	0.01	Low
Catenibacterium	Produces short-chain fatty acids and supports glucose metabolism; reduces inflammation.	**0.0 - 20.3**	0.01	Normal
Megamonas	Regulates metabolism by preserving energy and preventing weight loss.	**1.4 - 41.5**	0.00	Low
Allobaculum	Produces SCFAs and promotes intestinal barrier integrity; supports glucose metabolism.	**0.0 - 1.5**	0.00	Normal
Alloprevotella	Digests proteins and carbohydrates; produces anti-inflammatory compounds.	**0.0 - 10.5**	0.00	Normal
Anaerobiospirillum	Commensal anaerobe; limited data in dogs.	**0.0 - 5.0**	0.00	Normal
Clostridium sensu stricto 1	Associated with high-protein diets; contributes to fermentation but overgrowth can be harmful.	**0.1 - 13.0**	0.00	Low

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Beneficial Bacteria (Top 5)

Beneficial Bacteria (Top 5)

Top 5 most abundant beneficial bacteria. These organisms support digestive health and immune function.

Understanding Beneficial Bacteria Table

This table highlights beneficial bacterial species that actively promote your pet's health. These "good bacteria" support digestion, produce essential vitamins (such as B vitamins and vitamin K), help regulate immune function, and protect the gut against harmful pathogens.

Sample Report

Bacteria	Function/Impact	Range (%)	Abundance (%)	Status
Bacteroides	Breaks down complex carbohydrates into vitamins and beneficial metabolites; regulates immunity; low levels linked with IBD.	**0.7 - 37.4**	0.18	Low
Blautia	Produces anti-inflammatory and glucose-regulating compounds; supports metabolic and gut health; low levels associated with obesity.	**0.9 - 10.7**	0.02	Low
Fusobacterium	Common in healthy dogs; helps digest animal proteins; supports metabolic and immune balance; decreases with age.	**0.5 - 20.8**	0.02	Low
Faecalibacterium	Ferments dietary fiber and produces butyrate; anti-inflammatory and protective; low levels linked with IBD and colorectal disease.	**0.1 - 3.7**	0.01	Low
Clostridium hiranonis	Converts primary to secondary bile acids; regulates bacterial balance, reduces inflammation and protects against C. difficile; thrives on high-fiber diets.	**0.0 - 2.0**	0.00	Low

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Harmful Bacteria (Top 10)

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Harmful Bacteria (Top 10)

Top 10 most abundant harmful bacteria. Elevated levels may require veterinary attention.

Understanding Harmful Bacteria Table

This table identifies bacterial species that may cause health issues when present in excessive amounts. While small quantities of these bacteria can be normal in the gut environment, elevated levels may indicate dysbiosis (gut imbalance) and could be associated with digestive problems, inflammation, or other health concerns.

Bacteria	Function/Impact	Range (%)	Abundance (%)	Status
Streptococcus	Overgrowth linked with IBD and chronic gut inflammation; some probiotic species (e.g. S. thermophilus) are benign.	**0.0 - 5.0**	0.05	Normal
Clostridium perfringens	Toxin-producing strains cause gastroenteritis and chronic diarrhea.	**0.0 - 8.9**	0.01	Normal
Campylobacter upsaliensis	Causes campylobacteriosis; symptoms include diarrhea and cramping; dogs may be asymptomatic carriers.	**0.0 - 1.2**	0.01	Normal
Campylobacter jejuni	Common zoonotic pathogen; causes foodborne diarrhea and fever; transmissible to humans.	**0.0 - 0.0**	0.00	Not Detected
Clostridioides difficile	Causes antibiotic-associated diarrhea; interacts with C. perfringens toxins.	**0.0 - 0.1**	0.00	Not Detected
Clostridium piliforme	Causes Tyzzer's disease; mostly affects young dogs; leads to lethargy and abdominal pain.	**0.0 - 0.0**	0.00	Not Detected
Escherichia coli	Commensal at low levels; pathogenic strains cause diarrhea; overgrowth linked to colitis.	**0.0 - 5.0**	0.00	Not Detected

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Harmful Bacteria (Top 10)

Harmful Bacteria (Top 10) (continued)

Top 10 most abundant harmful bacteria. Elevated levels may require veterinary attention.

Bacteria	Function/Impact	Range (%)	Abundance (%)	Status
Listeria monocytogenes	Foodborne pathogen; may cause fever, diarrhea or respiratory issues; often asymptomatic carriers.	**0.0 - 0.0**	0.00	Not Detected
Salmonella enterica	Foodborne pathogen; causes vomiting and diarrhea especially in puppies.	**0.0 - 0.0**	0.00	Not Detected
Staphylococcus aureus	Opportunistic pathogen; causes skin and wound infections; may transmit from humans to dogs.	**0.0 - 0.0**	0.00	Not Detected

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Recommendations & Insights

Your pet's gut microbiome has been assessed across five health tiers. The highlighted tier below reflects your pet's current result, followed by tailored recommendations.

! Critical ▼ YOUR LEVEL	▼ Poor	~ Fair	✓ Good	★ Excellent

! Level 1 — Critical

Significant microbial imbalance detected. Multiple harmful bacteria are elevated and/or core populations are substantially depleted. Immediate intervention is recommended.

Recommendations:

- Consult your veterinarian promptly — dysbiosis at this level may be worsening clinical symptoms.
- Switch to a highly digestible, low-fibre diet (e.g. boiled chicken and rice) for 2–4 weeks.
- Avoid raw food, high-fat treats, and abrupt dietary changes during this period.
- Discuss targeted probiotic therapy (Lactobacillus / Enterococcus strains) with your vet.
- Re-test in 6–8 weeks after dietary changes to monitor recovery progress.

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