# Validation BCT4021

### Patient

Date of Birth: 18 Sep, 1986
Sex: UNKNOWN
Phone number: 372-376-7628
Location: 1479 Mitchell Drives Davidbury Vermont 3228 Australia

### Practice

Practitioner: John Doe
Practice phone number: 1-832-696-8446
Practice: Microba Medical Practice
Practice Address: 3833 Adrienne Trail Tyreeton Connecticut 8706 Australia

### Report

Report ID: R326090000021-1
Primary Sample ID: BCT4021
Report released: 18 Sep, 2026
Sample Type: Stool
Test Assay: PCR (Pathogens), Immunoassay (GI), FIT (Faecal Occult Blood)

## Overview

### Pathologist Notes

Submitted sample was assayed at >48 hours after collection which may result in reduced reported Secretory IgA concentrations. In such cases, we recommend to also consider clinical symptoms and other diagnostic tests for the final diagnosis and/or to request another patient sample. Diagnostic assays (exclusive of expert summary): Approved by Prof. Paul Griffin, FRCPA Clinical Microbiologist.

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# Targeted Pathogen Panel

| Status | Name |
|---|---|
| Detected | Enteropathogenic *E. coli* (EPEC) |
| Not Detected | Hypervirulent *Clostridium difficile* |
| Not Detected | *Dientamoeba fragilis* |
| Not Detected | Enterotoxigenic *E. coli* (ETEC) |
| Not Detected | *Aeromonas* spp. |
| Not Detected | *Campylobacter* spp. |
| Not Detected | *Salmonella* spp. |
| Not Detected | *Clostridium difficile* toxin B |
| Not Detected | *Yersinia enterocolitica* |
| Not Detected | *Shigella* spp./Enteroinvasive *E. coli* (EIEC) |
| Not Detected | Shiga toxin-producing *E. coli* |
| Not Detected | *Giardia lamblia* |
| Not Detected | *Cryptosporidium* spp. |
| Not Detected | *Entamoeba histolytica* |
| Not Detected | *Vibrio* spp. |

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| Status | Name |
|---|---|
| Not Detected | *E. coli* O157 |
| Not Detected | *Cyclospora cayetanensis* |
| Not Detected | Enteroaggregative *E. coli* (EAEC) |

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# Gastrointestinal (GI) Markers

| | Marker | Result | Reference Range |
|---|---|---|---|
| Borderline High | Human DNA * | 0.70 % | < 0.67 % |
| Not Detected | Faecal Occult Blood | | |
| Optimal | Calprotectin * | 49.40 µg/g | < 50.00 µg/g |
| Optimal | Secretory IgA * | 1716.03 µg/g | 500.00 µg/g - 2000.00 µg/g |
| Optimal | Pancreatic Elastase * | 304.30 µg/mL | ≥ 200.00 µg/mL |
| Optimal | Lactoferrin * | 0.64 µg/g | < 7.20 µg/g |
| Optimal | Zonulin family peptides * | 67.90 ng/mL | < 100.00 ng/mL |

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# Microbiome Health Report

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## Expert Summary

- *Enteropathogenic E. coli* (EPEC) detected. *Escherichia coli* naturally colonises the gastrointestinal tract and encompasses a wide number of strains. Most *E. coli* strains are harmless but some are foodborne pathogens and can cause gastroenteritis. *Enteropathogenic E. coli* (EPEC) is a major cause of infantile diarrhoea in the developing world. Medical treatment is recommended for symptomatic patients.
- There are no Gastrointestinal Health Markers out of range.
- The microbiome demonstrated borderline low species count with only 152 species detected.
- IPA producing microbes are notably low compared to the healthy cohort. Low levels of IPA-producing microbes may limit the production of IPA, reducing its anti-inflammatory effects and its protection of the intestinal barrier. Low blood levels of IPA may be associated with elevated systemic inflammatory markers.
- There is a high level of branched-chain amino acid (BCAA) producing microbes in this microbiome. BCAAs produced by the microbiome can contribute to elevated levels of plasma BCAAs. High levels of plasma BCAAs may be associated with systemic inflammation.
- This microbiome contains borderline low levels of propionate producing microbes compared to the healthy cohort. Propionate will reduce inflammation when the immune system is in its normal state but will enhance the immune response when the immune system is activated.

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# Microbiome Markers

| | Marker | Relative Abundance | Compared to Healthy Cohort | |
|---|---|---|---|---|
| High | BCAA-producing microbes | 71.97 % | +1.41 | RESEARCH USE ONLY |
| Low | IPA-producing microbes | 0.03 % | -2.14 | RESEARCH USE ONLY |
| Borderline Low | Propionate-producing microbes | 2.16 % | -0.75 | RESEARCH USE ONLY |
| Optimal | Oral Species | 0.25 % | -0.96 | RESEARCH USE ONLY |
| Optimal | Beta-glucuronidase producing microbes | 14.82 % | -0.46 | RESEARCH USE ONLY |
| Optimal | Hydrogen sulphide-producing microbes | 3.60 % | -1.28 | RESEARCH USE ONLY |
| Optimal | Acetate-producing microbes | 78.40 % | +1.26 | RESEARCH USE ONLY |
| Optimal | Trimethylamine-producing microbes | 3.42 % | +0.49 | RESEARCH USE ONLY |
| Optimal | Histamine-producing microbes | 0.20 % | -0.48 | RESEARCH USE ONLY |
| Optimal | Methane-producing Archaea | 0.11 % | -0.56 | RESEARCH USE ONLY |
| Optimal | Butyrate-producing microbes | 20.95 % | +0.58 | RESEARCH USE ONLY |
| Not Detected | *B. fragilis* toxin-producing microbes | 0.00 % | - | RESEARCH USE ONLY |
| Optimal | Oxalate-consuming microbes | 0.92 % | -0.51 | RESEARCH USE ONLY |
| Optimal | Hexa-LPS producing microbes | 0.06 % | -0.48 | RESEARCH USE ONLY |

# Measurement

| | Marker | Result | Compared to Healthy Cohort | |
|---|---|---|---|---|
| Borderline Low | Microbial Richness | 152 species | -0.79 | RESEARCH USE ONLY |

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| | Marker | Result | Compared to Healthy Cohort | |
|---|---|---|---|---|
| Optimal | Mucin Degradation | 652.71* | +0.08 | RESEARCH USE ONLY |
| Optimal | Microbial Diversity | 4.01^ | -0.14 | RESEARCH USE ONLY |

* calculated using the Shannon Index
^ calculated using the number of pathways detected

# Gastrointestinal (GI) Markers

| | Marker | Result | Reference Range | |
|---|---|---|---|---|
| Optimal | Faecal pH | 5.96 | 5.70 - 7.30 | RESEARCH USE ONLY |