

Acetate producing microbes

Marker Guide

What this marker measures

The collective capacity of the microbial community to produce acetate, the most abundant short-chain fatty acid in the gut. Acetate supports immune function and broader metabolic regulation¹⁻³, and can also be converted by other gut bacteria into butyrate^{4,5}. This marker reflects the combined functional potential of all acetate-producing species, not any single organism.

Clinical associations

Consider this marker when your patient presents with:

Immune dysregulation

Conditions where immune modulation via SCFAs may be relevant.

Interpreting the result

All results are compared to Microba's healthy cohort to determine whether they fall within or outside the expected range.

LOW

Acetate-producing potential is lower than expected

Consider in combination with other SCFA markers, dietary fibre intake, microbial diversity and clinical presentation.

Action: see Patient management insights guidance below.

WITHIN RANGE

Acetate-producing potential is within expected parameters

Suggests the capacity to support immune function and cross-feeding for butyrate production.

Maintain dietary diversity.

HIGH

Acetate-producing potential is higher than expected

Usually not a concern in isolation.

Higher acetate-producing potential may support immune regulation and cross-feeding for butyrate production.

Patient management insights

Support the conditions that help the entire acetate-producing community thrive.

DIETARY STRATEGIES

- Increase arabinoxylan intake (whole grains, rye, wheat bran). PP IV
- Foods high in pectin (apples, avocados, broccoli, oranges, plums)^{6,7}. PP IV
- Foods with resistant starch (slightly green bananas, cooked/cooled potato).^{10,11} PP IV
- Foods with short-chain inulin (chicory root, Jerusalem artichoke, garlic, onion)^{8,9}. PP IV

LIFESTYLE FACTORS

- Diverse plant-based diet (30+ plant foods/week) to support overall SCFA production.



Tips for patients discussion

Your report shows that the group of microbes responsible for producing acetate, which supports immune and metabolic health, is currently lower than expected. We can support this group by increasing specific fibres such as pectin, inulin and resistant starch.

The community

Acetate is not produced by a single species, it's a community-level function. Below are some of the most common, though this list is not exhaustive.

<i>Acetatifactor sp900066565</i>	<i>Agathobacter rectale</i>	<i>Agathobaculum butyriciproducens</i>
<i>Anaerostipes hadrus</i>	<i>Bacteroides thetaiotaomicron</i>	<i>Bacteroides uniformis</i>
<i>Bacteroides_B vulgatus</i>	<i>Blautia_A massiliensis</i>	<i>Blautia_A obeum</i>
<i>Blautia_A wexlerae</i>	<i>CAG-41 sp900066215</i>	<i>Clostridium_Q sp003024715</i>
<i>Clostridium_Q sp003024715</i>	<i>Dorea formicigenerans</i>	<i>Eubacterium_E hallii</i>
<i>Faecalibacterium MIC7145</i>	<i>Faecalibacterium prausnitzii_C</i>	<i>Faecalibacterium prausnitzii_C</i>
<i>Faecalibacterium prausnitzii_G</i>	<i>Fusicatenibacter saccharivorans</i>	<i>Fusicatenibacter saccharivorans</i>
<i>Gemmiger sp003476825</i>	<i>Odoribacter splanchnicus</i>	<i>Oscillibacter sp900066435</i>

How results are calculated

All microbiome marker results are compared against the Microba Healthy Cohort — a purpose-built group of more than 450 healthy individuals, with samples collected and analysed using the same workflow as patient samples.

Each marker is scored by comparing the patient's relative abundance against the cohort average. The distance from this average is expressed as standard deviations, and determines whether a result is classified as Low, Borderline, or High.

How the result scale works



The patient's relative abundance is compared to the Healthy Cohort average. A **negative** distance from average means the microbial group is less abundant than the Healthy Cohort. A **positive** distance means it is more abundant. Results falling outside the expected range are classified as borderline or high/low (borderline high/low: +/-0.68, and high/low: +/-1.28).

GRADE DESCRIPTION

A	Body of evidence can be trusted to guide practice
B	Body of evidence can be trusted to guide practice in most situations
C	Body of evidence provides some support for recommendation, but care should be taken in its application
D	Body of evidence is weak, and recommendation must be applied with caution
PP H	Body of evidence is observational only and must be applied with caution
PP IV	Body of evidence is in vitro and must be applied with a high degree of caution

Evidence grading for patient management insights

The letter grades shown next to each patient management insight show the quality of the research behind it. Every insight provided has been through a rigorous review of the scientific literature and graded using the NHMRC Levels of Evidence, so you can see exactly how strong the evidence is before applying it in practice.