



Zonulin

Gastrointestinal Health Marker Guide

What this marker measures

This marker measures zonulin family peptides, or ZFPs, in stool. ZFPs are proteins detected by the assay that are structurally related to zonulin and may include proteins such as properdin, rather than zonulin itself¹. While serum ZFPs have been associated with some conditions linked to altered gut barrier function^{2–6}, the biological significance of stool ZFPs is less well understood.

Assay indications

Adapted from the instructions for use

The zonulin system is more activated in coeliac disease and type 1 diabetes mellitus, with elevated zonulin and anti-zonulin antibodies observed in active coeliac disease compared to non-coeliac patients and those in remission on a gluten-free diet. Increased intestinal permeability is associated with the metabolic syndrome, obesity, and several autoimmune, inflammatory, and neoplastic diseases, and has been implicated in conditions including multiple sclerosis, rheumatoid arthritis, asthma, and inflammatory bowel diseases.

Clinical associations*

Consider this marker when your patient presents with:

Stress and lifestyle

Acute psychological stress or high-intensity exercise may be associated with altered intestinal permeability; interpret stool ZFPs cautiously and alongside symptoms and other markers.

Histamine-related context

Elevated stool ZFPs may co-occur with elevated faecal histamine or histamine intolerance features, but evidence is limited and not diagnostic.

Barrier research context

Zonulin-related pathways are involved in tight-junction regulation, but stool ZFPs should not be interpreted as a validated stand-alone measure of gut barrier integrity or intestinal permeability.

**In addition to the assay's intended use, all clinical associations have been reviewed by the Microba science team to ensure clinical validity supported by Microba's cited literature.*

Interpreting the result

OUT OF RANGE

> 100 ng/ml Elevated stool zonulin family peptides.

The clinical significance of stool ZFPs is still emerging and this result should not be interpreted as a stand-alone marker of increased intestinal permeability. Consider possible contributing contexts such as high-intensity exercise, acute psychological stress, elevated faecal histamine, intestinal inflammation, symptoms, and other relevant markers.

IN RANGE

≤ 100ng/ml Result is within the reference range.

This does not suggest elevated stool ZFPs. Interpret in the context of the patient's clinical presentation and other gut barrier or inflammatory markers.

CLINICAL NOTE

Zonulin is an acute phase marker.

A single elevated result reflects active stimulation at time of testing. Address stimulating factors for sustained improvement.

Treatment guidance

Address the cause and support intestinal barrier function.

SUPPLEMENTATION

- Glutamine supplementation may reduce intestinal permeability in selected populations⁷⁻⁹. C
- Zinc carnosine supplementation may reduce intestinal permeability in selected contexts, such as exercise-associated permeability changes¹⁰. C
- Bovine colostrum supplementation may reduce intestinal permeability in some clinical or exercise-related contexts.¹¹⁻¹⁴ C

SUPPLEMENTATION - PROBOIOTIC

- Saccharomyces boulardii may reduce intestinal permeability in patients with Crohn’s disease in remission¹⁵.



Tips for discussing out-of-range results

This marker measures zonulin family peptides, involved in regulating your gut barrier. A high result doesn't confirm increased permeability on its own, but it helps guide the conversation alongside your symptoms and other markers

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.

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