

Lactoferrin

Gastrointestinal Health Marker Guide

What this marker measures

Lactoferrin is an iron-binding protein released primarily by neutrophils and measured in stool. Elevated faecal lactoferrin indicates neutrophil-driven intestinal inflammation and can support assessment of IBD activity, treatment response and relapse risk¹⁻³. It may also be elevated in infectious colitis, especially of bacterial rather than viral cause^{4,5}.

This assay is issued under the European IVDR framework (the assay is classified IVDR Class C) with ARTG listing for use in Australian markets

Assay indications

Adapted from the instructions for use

During intestinal inflammation, polymorphonuclear neutrophils infiltrate the mucosa and release lactoferrin by degranulation, which results in an increased excretion of lactoferrin into the faeces. Faecal lactoferrin is therefore a marker for neutrophilic intestinal inflammation.

- Detection of intestinal inflammatory activity
- Prediction of relapse of IBD
- Monitoring of disease activity in inflammatory bowel disease (IBD)
- Assessment of IBD treatment response

Clinical associations*

Consider this marker when your patient presents with:

IBD activity

High faecal lactoferrin may indicate neutrophil-driven intestinal inflammation in Crohn's disease or ulcerative colitis, and may support assessment of disease activity, treatment response, and relapse risk.

Infection

Faecal lactoferrin may be elevated in inflammatory or bacterial diarrhoea, including *C. difficile* infection, but should not be used alone to determine the infectious cause. Interpret alongside stool pathogen/toxin testing and clinical severity.

Inflammatory assessment

May support assessment of intestinal inflammation in known organic gastrointestinal disease.

**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

IN RANGE

$\leq 7.2\mu\text{g/ml}$. Within the reference range

Within the reference range. Significant neutrophil-driven intestinal inflammation is unlikely, although low-grade or intermittent inflammation is not fully excluded.

OUT OF RANGE

$> 7.2\mu\text{g/ml}$. Above the reference range.

Indicates increased neutrophil-driven intestinal inflammation but is not specific to the cause. May be seen with IBD, infectious colitis, including *C. difficile*, or other inflammatory GI conditions. Further investigation is warranted if the cause is unknown.

Treatment guidance

Investigate the underlying cause of elevated lactoferrin. Adjunctive dietary or supplement strategies may be considered only once the clinical context is established.

CLINICAL SIGNIFICANCE

Out-of-range lactoferrin requires referral to a medical practitioner if cause is unknown, persistent or red-flag symptoms are present.

SUPPLEMENTATION

- Omega-3 fatty acid supplementation has been shown to reduce intestinal inflammation in patients with ulcerative colitis⁶⁻⁸. B
- Curcumin supplementation as an adjunct to standard therapy, may reduce evidence of endoscopic inflammation in patients with ulcerative colitis⁹⁻¹¹. C
- EGCG (green tea) supplementation as an adjunct to standard therapy, may reduce disease activity in patients with ulcerative colitis¹². D
- Aloe vera supplementation as an adjunct to standard therapy, may reduce disease activity in patients with IBD¹³. D



Tips for discussing out-of-range results

Your lactoferrin result gives us information about inflammation in your gut. It can help track changes over time, especially in inflammatory bowel conditions. We'll interpret it alongside your symptoms and other results to decide what are the next steps.

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 |