

Calprotectin

Gastrointestinal Health Marker Guide

What this marker measures

Calprotectin is a human protein released primarily by neutrophils during intestinal inflammation and measured in the stool. It helps distinguish inflammatory conditions such as inflammatory bowel diseases (IBD) from non-inflammatory conditions such as irritable bowel syndrome (IBS), and to monitor IBD activity and relapse risk¹⁻³.

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

Faecal calprotectin levels correlate significantly with histologic and endoscopic assessment of disease activity in Crohn's disease and ulcerative colitis. Elevated levels of calprotectin are a much better predictor of relapse than standard inflammatory markers (CRP, ESR, Hb).

- Marker for acute inflammation
- Estimation of gastrointestinal inflammation degree
- Parameter for monitoring Crohn's disease, ulcerative colitis, or the patient's status after removal of polyps
- Discrimination between patients with inflammatory bowel disease (acute Crohn's disease and ulcerative colitis) and irritable bowel syndrome

Clinical associations*

Consider this marker when your patient presents with:

Infection

May be elevated in bacterial gastroenteritis and C. difficile infection; interpret alongside stool pathogen testing, symptoms and clinical severity.

Inflammatory bowel conditions

May indicate intestinal inflammation in suspected or diagnosed IBD, including ulcerative colitis and Crohn's disease.

Medication effects

May be elevated in patients using NSAIDs or PPIs and should be considered when interpreting results.

**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

≤ 50ug/g. Within the reference range.

Neutrophil-driven intestinal inflammation is unlikely. In patients with known IBD, an in-range result may support treatment response or remission.

BORDERLINE

50ug/g – 100ug/g.

May indicate low-grade intestinal inflammation, recent infection, medication effects, or biological variation. Consider symptoms, NSAID/PPI use, and other inflammatory markers; repeat testing may be appropriate if clinically indicated.

OUT OF RANGE

> 100 ug/g. Above the reference range.

Indicates increased intestinal inflammation but is not specific to the cause. May be associated with IBD, infectious or microscopic colitis, untreated coeliac disease, diverticulitis, or medication-related enteropathy. Referral is recommended if the cause is unclear, the elevation persists, or red-flag symptoms are present.

Patient management insights

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

CLINICAL SIGNIFICANCE

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

DIETARY STRATEGIES

- Inclusion of 3 serves per day of polyphenol-rich foods may reduce faecal calprotectin in elderly nursing home residents⁷. D
- Mediterranean diet as an adjunct to standard therapy, may be associated with lower faecal calprotectin in patients with IBD⁴⁻⁶. C

SUPPLEMENTATION

- Inulin supplementation as an adjunct to standard therapy, may reduce faecal calprotectin in patients with ulcerative colitis or obesity¹⁷⁻¹⁹. C
- Omega-3 fatty acid supplementation, particularly EPA-FFA or flaxseed as an adjunct to standard therapy, may reduce faecal calprotectin in patients with ulcerative colitis⁸⁻¹⁰. D
- Eicosapentaenoic acid supplementation as an adjunct to standard therapy, may reduce faecal calprotectin in patients with ulcerative colitis^{9,10}. D
- Curcumin supplementation as an adjunct to standard therapy, may reduce evidence of endoscopic inflammation in patients with ulcerative colitis¹¹⁻¹³.
- Saccharomyces boulardii as an adjunct to standard therapy, may reduce faecal calprotectin in patients with ulcerative colitis¹⁶.
- EGCG (green tea) supplementation as an adjunct to standard therapy, may reduce disease activity in patients with ulcerative colitis¹⁴.
- Anthocyanin-rich bilberry supplementation as an adjunct to standard therapy, may reduce faecal calprotectin in patients with ulcerative colitis¹⁵.
- Aloe vera supplementation as an adjunct to standard therapy, may reduce disease activity in patients with ulcerative colitis²⁰.



Tips for discussing out-of-range results

Your result shows elevated calprotectin, which may suggest intestinal inflammation. This does not identify the exact cause, so we'll review your symptoms, medications, and other test results to decide what next steps are needed.

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