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CLIA

Calprotectin:
a powerful endogenous biomarker of intestinal inflammation

Inflammatory & Tumor Makers

Calprotectin is a calcium- and zinc-binding protein complex predominantly found in neutrophils and monocytes. When the intestinal mucosa is inflamed, massive neutrophil migration and activation lead to the release of calprotectin into the gut lumen and, consequently into faeces.

Because calprotectin is resistant to bacterial degradation in faeces, it remains stable at room temperature and serves as a robust non-invasive marker of gut inflammation.

Unlike exogenous tracers or invasive procedures, calprotectin is a endogenous (body-derived) molecule whose elevated presence in faeces signals neutrophil-mediated gut inflammation. This makes it an efficient tool for monitoring gut health without the invasiveness of endoscopy. It is particularly useful for repeated assessments, monitoring remission/relapse in IBD, and guiding clinical decision-making.

The global incidence of **Inflammatory Bowel Disease (IBD)** — encompassing Crohn's Disease and Ulcerative Colitis — has been steadily **increasing over the past decades,** particularly in newly industrialized regions of Asia, South America, and Eastern Europe.

Recent estimates suggest that **more than 7 million people worldwide** are affected, with annual incidence rates ranging from **6–30 cases per 100,000 inhabitants** in Western countries and showing a **rapid upward trend** in developing nations due to changing lifestyles, diet, and microbiome-related factors.

This growing burden underscores the importance of **non-invasive biomarkers such as faecal calprotectin** for early diagnosis, disease monitoring, and healthcare cost reduction.

Clinical significance & applications

- Faecal calprotectin (FC) is strongly correlated with endoscopic activity in **Inflammatory Bowel Disease (IBD)** — both **Ulcerative Colitis and Crohn's Disease** — and is widely used to differentiate between inflammatory vs. functional gastrointestinal disorders.
- The marker is increasingly being researched beyond gastroenterology – e.g., its levels in faeces or plasma have been studied in **renal disease, autoimmune disorders and systemic inflammation.**

CAUSE

- Neutrophil migration into gut mucosa & neutrophil activation (release of calprotectin).
- Stable marker in faeces (resistant to degradation).
- Functional GI disorder (e.g., IBS) rather than inflammatory disease.

EFFECT / CLINICAL RELEVANCE

- Elevated faecal calprotectin (active intestinal inflammation (e.g., IBD)).
- Non-invasive monitoring of disease activity and treatment response.
- Normal or low calprotectin (may avoid invasive diagnostics).

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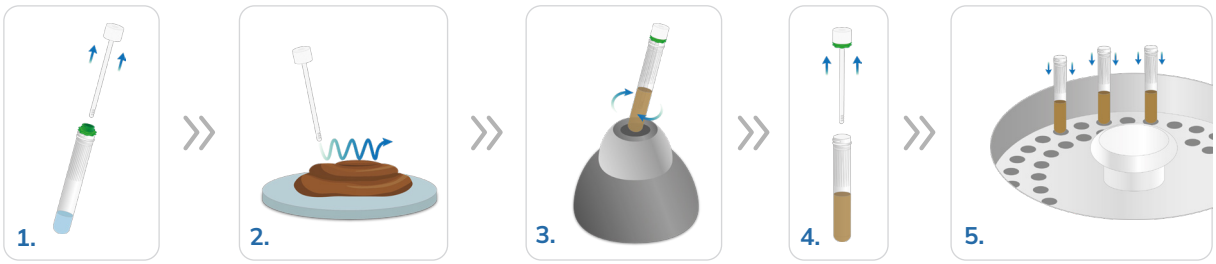
Your Laboratory Solutions for Calprotectin

Calprotectin CLIA Test
(Chemiluminescent Immunoassay)

A fully automated quantitative method for measuring calprotectin in faeces using CLIA technology:

- High sensitivity and precision, suitable for high-throughput clinical laboratories.
- Provides quantitative data for monitoring disease progression, response to therapy, or mucosal healing in IBD.

Stool specimen collection and preparation



1. Take the sample dilution vial. Remove the stick by turning the thread of the white cap in the opposite direction.
2. Introduce the stick in up to 4 different points of the sample.
3. Shake the sample dilution vial, which contains diluent and sample, in order to obtain a good dispersion. Use a vortex until a maximum of 120 seconds. Once the sample is dissolved, centrifuge the tube between 1,000-3,000 rpm for 1 minute to deposit the particulate matter at the bottom.
4. Remove the white cap and the green spacer, turning in the opposite direction.
5. Introduce the sample vials into the analysis equipment.

Reference	Product	Reference method
CLP000	Calprotectin Ag Quantitative; 100 determinations	Sensitivity: 95,0%; Specificity: 98,3%. Reference technique: CLIA
CLP001	Calprotectin Ag Quantitative; 200 determinations	
CLPCal	Clostridium difficile GDH Ag Calibration set; one point	
VFE-001	Universal Faecal Sample Vials kit; 100 vials	

Non invasive diagnostic

All included. No additional equipment needed

Low operational costs

Ease of use and interpretation

Immediate results

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