

Turbilatex®

Calprotectin: a powerful endogenous biomarker of intestinal inflammation

Inflammatory
& Tumour Markers

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 stool, 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 body-derived molecule whose elevated levels in stool signal 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 industrialised 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 and functional gastrointestinal disorders.
- The marker is increasingly being researched beyond gastroenterology, with levels in faeces or plasma being studied in **renal disease, autoimmune disorders and systemic inflammation**.



CAUSE

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



EFFECT / CLINICAL RELEVANCE

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

Your Laboratory Solutions for Calprotectin

Turbidimetric Calprotectin Assay (Latex-enhanced Immunoturbidimetry)

An immunoturbidimetric (or latex-enhanced) assay for calprotectin, suitable for open-channel chemistry analysers:

- ✓ Cost-efficient option for labs already equipped with turbidimetric platforms.
- ✓ Good throughput and precision, offering quantitative measurement of calprotectin.
- ✓ Provides flexible access to calprotectin testing without exclusive immunoassay equipment.
- ✓ Compatible with existing automated analyser platforms and integrates into renal/gastrointestinal testing panels/workflows.
- ✓ Other complementary assays available using the same stool sample tube: FOB-FIT, Pancreatic Elastase, and Transferrin.

Calprotectin Turbilatex® Combo is a non-invasive immunological assay which quantifies the calprotectin present in human faeces. This simple test provides rapid, reliable information on the patient's inflammatory status.

Product specifications

Sensitivity (%)	96.8 ⁽¹⁾
Specificity (%)	91.4 ⁽¹⁾
Cut-off value (in dilution)	500 ng/mL
Cut-off value (in faeces)	50 µg/g
Main interferences	None ⁽²⁾

Cut-off value can be modified according to laboratory needs.

⁽¹⁾ Results obtained by comparison with similar products available on the market.

⁽²⁾ None identified in the analyses performed.

References	Description
TL-022CP100ED	Calprotectin Turbilatex® Combo (kit 100 det.) ⁽³⁾
TL-022CP200ED	Calprotectin Turbilatex® Combo (kit 200 det.) ⁽³⁾
TL-022CP400ED	Calprotectin Turbilatex® Combo (kit 400 det.) ⁽³⁾
TL-022CP800ED	Calprotectin Turbilatex® Combo (kit 800 det.) ⁽³⁾
MST-0019UR	Universal Turbilatex® Sample Collection Vial.

⁽³⁾ The number of determinations may vary depending on the analyser used. Optimized value for Biolis 24i.



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Quantification of faecal calprotectin is one of the most widely used parameters in the analysis of inflammatory processes which affect the distal gastrointestinal tract.



Non-invasive
diagnostic



All included.
No proprietary
analyser required



Low
operational
costs



Ease of use and
interpretation



Immediate
results

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