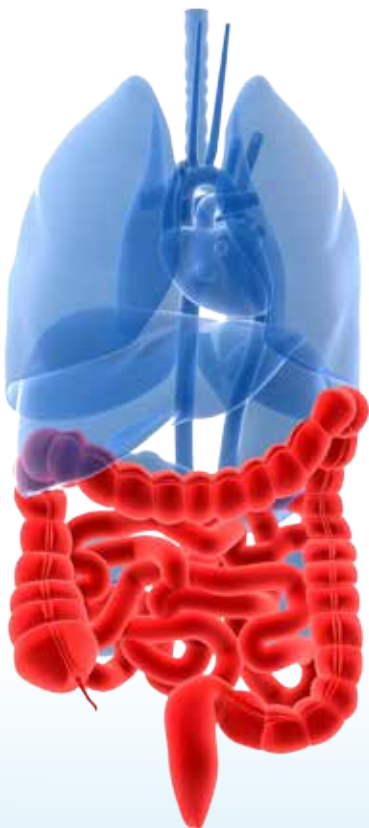


Faecal Calprotectin

**Reliable Non-Invasive Discrimination
Between Inflammatory Bowel Disease (IBD)
& Irritable Bowel Syndrome (IBS)**



Reliable, Non Invasive Identification of IBD vs IBS

Available from Eurofins Biomnis, Faecal Calprotectin is a very sensitive and specific non-invasive test that can be used to differentiate between IBD and IBS which may have similar symptoms. A negative result can rule out an inflammatory process while a positive result may prioritize endoscopy in the diagnostic path.

What is Calprotectin?

Calprotectin is a very abundant heterodimeric calcium-binding protein belonging to the S100 family. It is derived predominantly from the cytosolic fraction of neutrophils and to some extent from monocytes and activated macrophages.

Significantly increased levels of calprotectin in stool are found in patients with bowel inflammation (e.g. IBD), whereas it is not elevated in patients with functional diseases like IBS. The level of faecal Calprotectin correlates directly to the number of neutrophil granulocytes in the intestinal lumen. As such it is specifically elevated in IBD such as Crohn's disease and ulcerative colitis and to a much smaller extent in other entities such as neoplasia and polyps.

Calprotectin – Your Front Line Gastrointestinal Screen

Together with CRP, ESR, and stool culture, the measurement of stool Calprotectin is useful as a screening test in all subjects reporting gastrointestinal (GI) problems. A negative calprotectin result in a patient without alarm symptoms is reason enough to avoid endoscopy while a positive result can prioritize invasive and expensive procedures such as endoscopy including intestinal biopsy. The measurement of calprotectin provides an important orientation for the physician in the diagnosis of GI patients¹.



Clinical Interpretations

Identify those patients who are most likely affected by IBD rather than IBS

Stool calprotectin measurement is an easy, non-invasive first line test which clearly differentiates IBD from IBS and other functional disorders. It has been shown to be the most sensitive and most specific test for this discrimination clearly outperforming blood tests such as CRP or ESR². See Figure 1 for details of Thermo Scientific study.

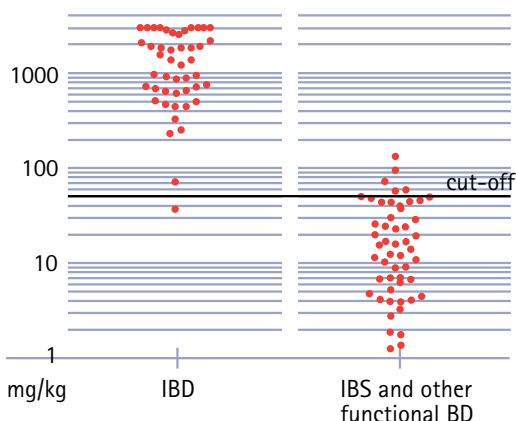


Figure 1: Performance of EliA™ Calprotectin in 191 clinically defined patients – 132 IBD, 59 IBS, and other functional bowel disorders (BD). A value of 50 mg/kg is set as cut-off for positivity. (internal study)

Monitor the effectiveness of IBD therapy

Calprotectin has also been proven as a marker for therapeutic effectiveness and mucosal healing. Patients in clinical remission with a low concentration of faecal calprotectin have a much better prognosis than patients with a high concentration.

Detect IBD relapse

Studies show that calprotectin appears to be a good predictor of relapse in patients with IBD³.

Excellent Performance

The outstanding performance of the Phadia EliATM Calprotectin, which is used by Eurofins Biomnis to perform this test, is underlined by the high sensitivity and the high specificity of the test (Table 1). Most important, the predictive values and the likelihood ratios give excellent values assuring high clinical usefulness of the test in routine practice.

High clinical value	EliATM	Supplier 1	Supplier 2
Sensitivity	97.7 %	96.7 %	99.2 %
Specificity	89.8 %	89.8 %	76.3 %
Positive predictive value (PPV)	0.96	0.96	0.90
Negative predictive value (NPV)	0.95	0.93	0.98
Positive likelihood ratio (LR+)*	9.58	9.48	4.19
Negative likelihood ratio (LR-)*	0.03	0.04	0.01

Table 1: Performance data of EliATM Calprotectin and tests from two other suppliers

Benefits of Calprotectin Testing

- The most accurate non-invasive IBD marker
- Cost-effective
- Sensitive and Specific
- Correlates well with endoscopic and histological findings
- Useful for both diagnosis and therapeutic monitoring



Test Information

Please find below details regarding Faecal Calprotectin analysis which may be ordered from Eurofins Biomnis:

Method	Phadia EliA method
Turnaround Time	2 Weeks
Sample Requirements	At least 20g stool, refrigerated. Calprotectin is stable for several days at ambient temperatures but refrigeration may be preferred due to the nature of the sample. Please do not freeze samples because it can lead to false elevated results in some cases, most likely due to release from granulocytes.
Reference Range	NEGATIVE <50 ug/g: GRAY ZONE 50 - 200 ug/g (repeat in 4 to 6 weeks) POSITIVE >200 ug/g:

How Do I Order This Test?

1. Complete the Faecal Calprotectin Test Request Form which can also be downloaded from the Test Request form section of our website – www.eurofins-biomnis.ie
2. Place the 20g (minimum) stool sample into a sterile container and refrigerate until collection.
3. Contact our nationwide pathology transport department on 1800 252 967 or logistics@eurofins-biomnis.ie to arrange delivery of sample to our laboratory

For more information contact us at



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References

1. Summerton CB et al (2002). Faecal calprotectin: a marker of inflammation throughout the intestinal tract. *Eur J Gastroenterol Hepatol* 14: 841-845.
2. Tibble J et al (2000). A simple method for assessing intestinal inflammation in Crohn's disease. *Gut* 47: 506-513.
3. Sutherland AD et al (2008). Review of fecal biomarkers in inflammatory bowel disease. *Dis Colon Rectum* 51: 1283-1291.