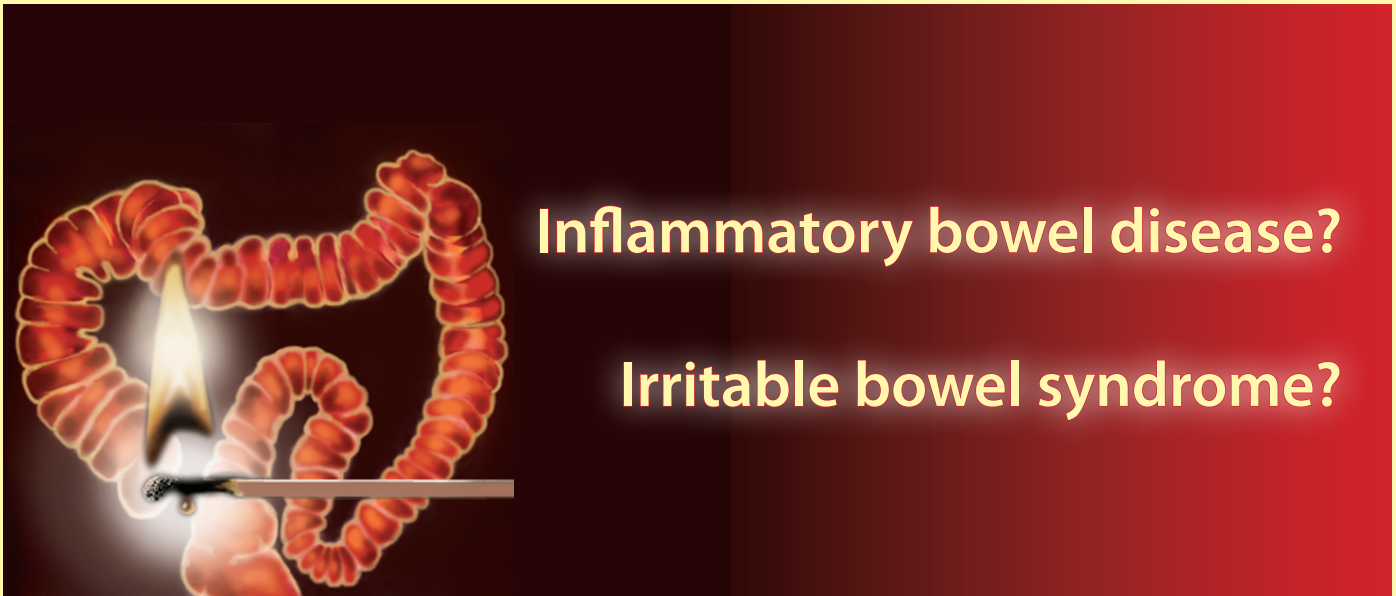


IDK[®] Calprotectin



Faecal calprotectin as inflammation marker for diagnosis and monitoring of bowel diseases

ELISA for the determination of calprotectin in stool

- ▶ Monoclonal test system
- ▶ Short incubation time (2 x 30 minutes)
- ▶ Broad measuring range: 6–2100 µg/g
- ▶ Convenient ready-to-use standard, controls and conjugate



Calprotectin

Marker for Bowel Inflammation

Only a small fraction of patients with abdominal discomfort have an organic disease, but a correct diagnosis can rarely be made by simple clinical examinations. Calprotectin, a calcium binding protein, produced by neutrophil granulocytes and monocytes, has been established as a faecal biomarker aiding in the diagnosis of organic disease.

Microorganisms of the bowel stimulate leukocytes to migrate into the gut lumen where they release their contents including antimicrobial substances like the acute phase protein calprotectin (MRP 8/14). The concentration of calprotectin in faeces is correlated with the number of polymorph nuclear neutrophilic granulocytes (PMN) migrating into the gut lumen, and can be detected reliably even in small (15 mg are sufficient) random stool samples. Calprotectin allows for a **reliable differentiation between organic and functional intestinal diseases**. Furthermore, calprotectin has been established as a valuable parameter in inflammatory bowel disease (IBD) for primary diagnosis as well as for monitoring of disease activity.

Differentiation between Organic and Functional Intestinal Diseases

It is often difficult to distinguish between patients suffering from irritable bowel syndrome (IBS) and those with inflammatory bowel diseases (IBD). Symptoms of both diseases are comparable and final diagnosis requires a multitude of elaborate, even invasive, examinations. The use of calprotectin as a **reliable and non-invasive marker in primary care**, can greatly support the physician in the differentiation between IBS and IBD and allows for a quick and reliable differentiation between patients who need further invasive procedures and patients with functional disease for whom a conservative treatment is sufficient.

Assessment of Inflammatory Activity in Crohn's Diseases and Ulcerative Colitis Patients – Prediction of IBD relapses

As an inflammation marker, calprotectin reliably indicates relapse in advance in patients suffering of IBD. The determination in stool **correlates very well with histological and endoscopic findings of the disease activity** in Crohn's Disease and Ulcerative Colitis. Calprotectin provides a measure to objectively assess the response to the treatment and enables physicians to monitor patients that are in clinical remission in order to check for disease activity allowing early intervention in case of a treatment relapse of IBD.

- Calprotectin exhibits a higher sensitivity and specificity than lactoferrin or PMN-elastase in the determination of inflammation.
- Once the stool sample is dissolved in the *IDK Extract*[®] solution buffer, the sample can be stored for up to 9 days at a room temperature before analysis.

Differential Diagnosis of Chronic Diarrhoea

In contrast to the faecal markers lactoferrin and PMN-elastase, calprotectin is also qualified to discriminate between an organic diarrhoea and a functional diarrhoea. Additionally, it is a **positive predictive marker for an infectious diarrhoea**. Increased calprotectin levels (> 50 µg/g) indicate invasive pathogens as causative of diarrhoea.



Calprotectin is a complex of the calcium binding proteins S100A8 and S100A9. It has two transition metal binding sites forming at the interface of the S100A8 and S100A9 monomers. Furthermore, metal sequestration by calprotectin has been shown to be calcium dependent. Calprotectin accounts for up to 60% of the soluble cytoplasmic proteins in neutrophilic granulocytes, monocytes and macrophages.

Stool sample preparation

... completely relaxed



Combine our **IDK® Calprotectin** ELISAs for stool samples with the handy and smart stool sample device prefilled with **proprietary extraction buffer IDK Extract®**. This allows you to perform a complete stool analytics (up to 14 parameters) with **one** stool sample and **one** extraction step!

Use **IDK Extract®** and save time and money!

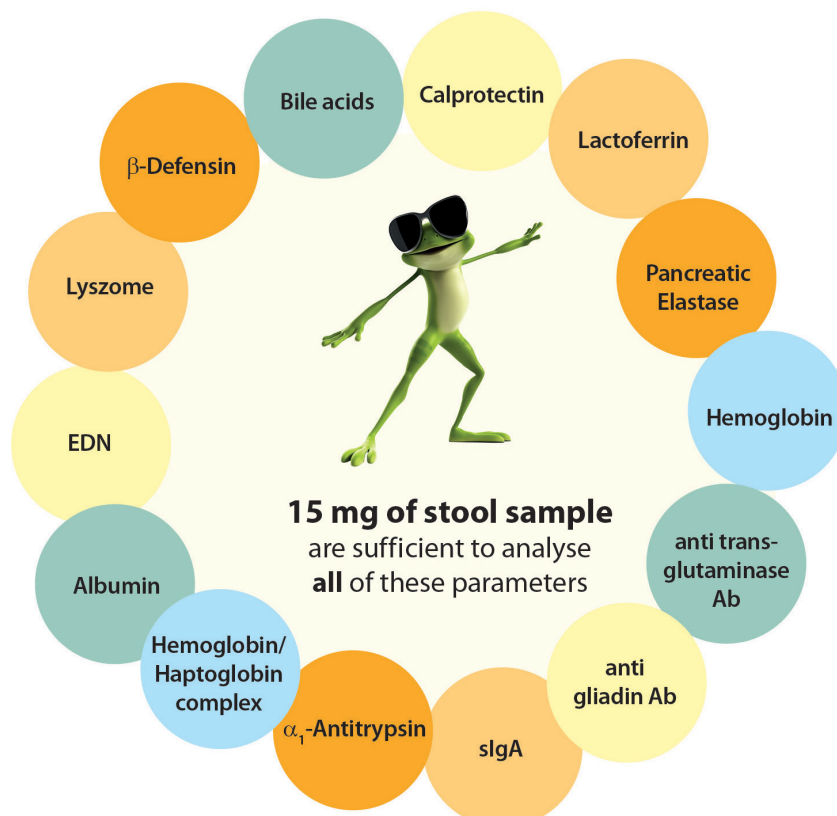
Determination of several parameters from one single sample often has some challenges: insufficient sample material or considerable additional workload – and therefore loss of time.

You cannot determine all requested parameters within one single day?

No problem!

You can store and even freeze the extract for most of our parameters for a certain time!

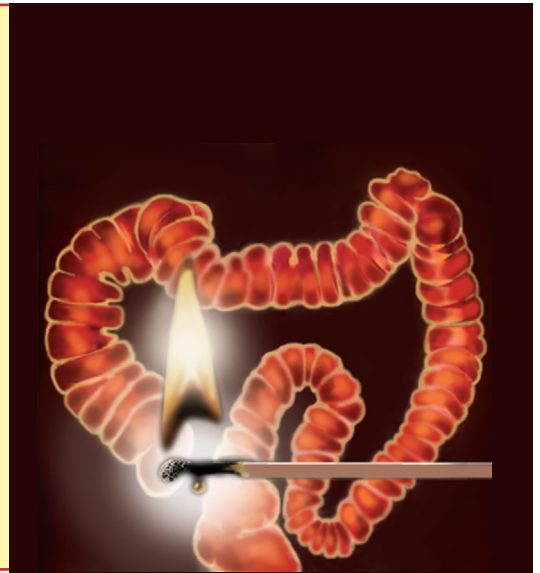
Please ask us for further details!



Pancreatic Elastase and slgA in US: FDA Class I Exempt Device. For In Vitro Diagnostics. Use.

The essentials of **IDK® Calprotectin (K 6927)**:

- Reliable differentiation between inflammatory bowel disease and irritable bowel syndrome
- Ideal for monitoring disease activity and early detection of relapse for optimized personalized therapy monitoring
- For discrimination between organic and functional diarrhoea
- Monoclonal test system warrants highest performance
- Quick & hygienic stool preparation system using our universal extraction buffer **IDK Extract®** to perform a complete stool analysis from one single stool sample.
- All steps at room temperature without shaking
- Automation solutions available – Please contact us!



Also available: Determination of calprotectin in

- **serum and plasma** (K 6935)
- **urine** (K 6928)
- **stool 1-point calibration** (K 6967)
- **mouse and rat liquids** (KR6936; RUO)
For biological liquids in animal experiments; suitable e.g. for mouse/rat.
Not suitable for human samples!

**DID YOU
KNOW ?**

We offer solutions for

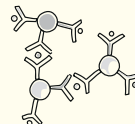
- **Turbidimetric calprotectin testing**

IDK® TurbiCAL®

TU1021.1 (100 tests)

TU1021.2 (200 tests)

TU1021.8 (800 tests)



- **Smartphone based calprotectin testing**

Are you interested in?

Please contact: export@immundiagnostik.com

Recommended Literature:

1. **Matsuura et al. (2018)**
Fecal calprotectin reflects endoscopic activity in patients with small-bowel Crohn's disease according to double-balloon endoscopy findings.
Nagoya J Med Sci 80(2):257-266
2. **Walker et al. (2018)**
Faecal calprotectin effectively excludes inflammatory bowel disease in 789 symptomatic young adults with/without alarm symptoms: a prospective UK primary care cohort study.
Aliment Pharmacol Ther 1-14
3. **Chen et al. (2012)**
Fecal Calprotectin as a Correlative Marker in Clinical Severity of Infectious Diarrhea and Usefulness in Evaluating Bacterial or Viral Pathogens in Children.
JPNG 55:541-547



US: For Research Use Only. Not for use in diagnostic procedures.

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