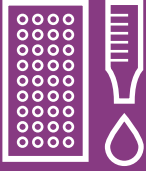


Calprest



THE REFERENCE TEST FOR
CALPROTECTIN IN ELISA



**CALPREST: ELISA TEST FOR THE QUANTITATIVE DETERMINATION
OF CALPROTECTIN IN STOOL**



CALPREST: THE REFERENCE TEST FOR CALPROTECTIN IN ELISA.

WHAT IS CALPROTECTIN?

Calprotectin is a protein present in the neutrophils and can be found in stool with elevated concentrations in case of Inflammatory Bowel Disease (IBD), specifically Crohn's disease and Ulcerative Colitis. Calprotectin is stable in stool samples for several days at room temperature and much longer periods at -20°C.

The faecal concentration of Calprotectin correlates with the histologic and endoscopic patterns of the intestinal inflammation in IBD patients.

THE IMPORTANCE OF USING Calprest

Only a small portion of patients with intestinal disorders referring to the gastroenterology clinic have an organic disease. The majority of population referring to a gastroenterologist (35-50%) is affected by a functional disease, called Irritable Bowel Syndrome (IBS), which is probably the most common cause of intestinal disorders.

Therefore, it is necessary to differentiate those patients with functional disease (IBS) that do not need invasive researches, from those who are suffering from organic diseases and, in particular from Inflammatory Bowel Diseases (IBD).

Calprest is a not invasive screening test that reliably detect the presence of an inflammation of the intestinal mucosa and can be used in the following conditions:

- Differential diagnosis (IBD/IBS)
- Control of the correct course of IBD and monitoring of the therapeutic strategy
- Prediction of clinical relapses

Calprest: THE TEST

As **Calprest** is the diagnostic test for detection of Calprotectin in stool more widespread throughout different countries, and it is well-known that its use provides enormous benefit for the patients, and cost savings for the health system by reducing the number of unnecessary endoscopies.

Calprest boasts the largest number of national and international publications: this has given rise to an extensive literatures, which is accessible through the bibliographic service of Eurospital.

For the reasons listed above and for Eurospital experience in the field of gastroenterology, **Calprest** is the reference for the determination of Calprotectin in stool.

TECHNICAL FEATURES

Calprest is an Enzyme Immunoassay on microplate that exploits the use of polyclonal antibodies directed against calprotectin. Calprotectin presents in the diluted sample binds to the antibodies coated on the solid phase. The alkaline phosphatase conjugated antibodies makes a complex with the antigen. Then, the subsequent addition of a chromogenic substrate leads to the formation of a coloured mixture. The intensity of the colour is proportional to the amount of calprotectin present in the sample. The final concentration of calprotectin in the sample is calculated from a 6 standard reference curve.

MEASURING RANGE

Calprest provides with results in the range between 15,6 and 500 µg/g (or mg/kg) of stool.

If high level of Calprotectin are expected, the measurement range of **Calprest** can be extended using appropriate dilutions of the extracted sample, which still provides with high quality and reliable results.

The table below is an example showing different ranges of measurement according to different dilutions of the extracted sample.

	EXTRACTED SAMPLE DILUTION	MEASUREMENT RANGE (µg/g or mg/kg)
Traditional	1:50	15,6 - 500
Extended range 1	1:100	31,2 - 1000
Extended range 2	1:150	46,8 - 1500
Extended range 3	1:200	62,5 - 2000

Within these ranges of measurement, the following references values have been defined.

VALUE	INTERPRETATION
< 70 mg/kg of stool	Negative
70-100 mg/kg of stool	Borderline area. The patients should be retested within a short period of time
> 100 mg/kg of stool	Positive

Calprest RELIABILITY

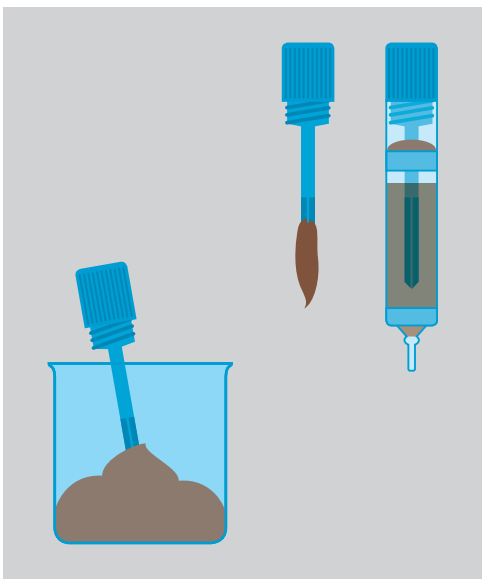
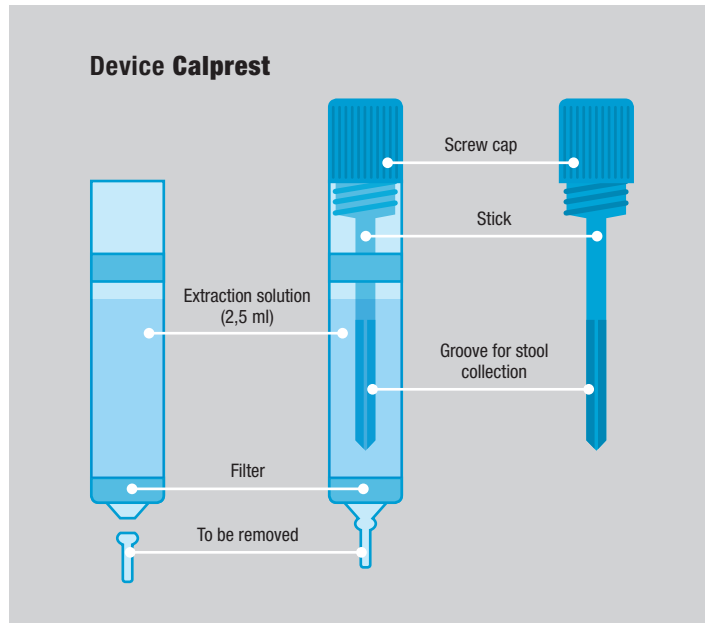
DIAGNOSTIC SENSITIVITY	DIAGNOSTIC SPECIFICITY	NEGATIVE PREDICTIVE VALUE
95%	93%	98%

Calprest

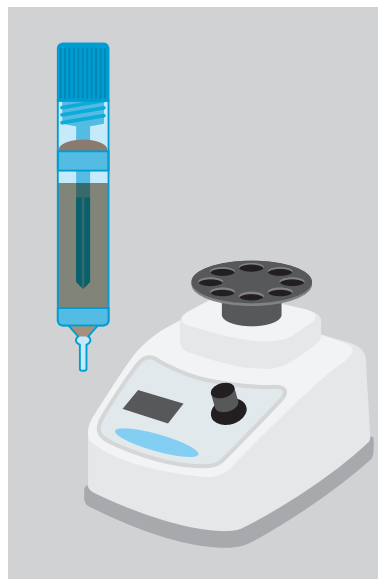
COLLECTION AND EXTRACTION OF SAMPLE

To optimize the use of **Calprest** during the collection and extraction of stool, Eurospital provides a standardized and CE marked device for Calprotectin that significantly reduces the pre-analytical phase, allowing the operator to have already extracted samples that do not require any stool manipulation.

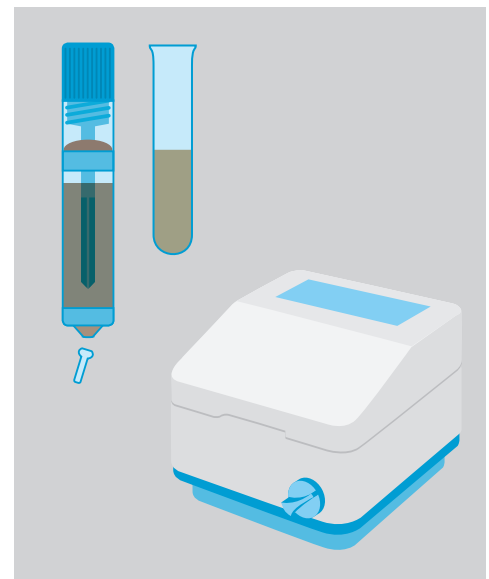
The **Calprest** device is ready to use (see picture) and consists in a test tube containing the extraction solution and a shaped DIPSTICK with four radial grooves for collecting the sample. It is easy-to-use: just dip the dipstick into the stool sample and then reintroduce it into the device in order to start the extraction. The sample thus obtained can be transferred into a clean test tube for immediate or later testing.



Dip the shaped stick in the collected stool sample, and repeatedly rotate the stick in the stool sample until all grooves are filled with faecal material. Fully insert the stick, with faecal material into the tube containing the extraction solution. Turn the cap clockwise until completely closed.



Shake each device by Vortex for 60 seconds in order to properly homogenate the content and place the device on a roller shaker for tubes and shake for 60 minutes.



Break the low-end and to remove it. Transfer the supernatant into a clean tube. If the sample is tested by an ELISA sample processor, centrifuge one more time the clean liquid to remove the possible residuals of faecal material.

TIPS AND PRECAUTIONS FOR A BETTER USE OF Calprest

Calprest shows high sensitivity high negative predictive value.

Elevated values of **Calprest**, excluding serious infectious diseases, are a possible indication of Inflammatory Bowel Disease (IBD). Conversely, a negative test result suggests an almost certain exclusion of Inflammatory Bowel Disease.

In patients with infectious diseases or upper respiratory tract disorders, **Calprest** may be positive due to swallowing of mucus and consequent presence of activated neutrophil in the stool: in this case the patient should repeat the test when the infection is over.

Patients with IBD undergoing specific anti-inflammatory therapy, may show decreased levels of Calprotectin. This allows the use **Calprest** for disease monitoring and patient's follow-up.

Anti inflammatory drugs induce a reduction in the activation of granulocytes and therefore during this therapy **Calprest** could be negative.

Patients with IBD in clinical remission but with positive **Calprest**, may experience a relapse within 6 months.

Calprest CONFIGURATION

• **Calprest** - 96 tests - code 9031

• **Calprest** Device to collect stool - 100 pc - code 9062





literature available on:
www.calprotectintest.com

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