

Calprotectin

A marker for the inflammatory bowel diseases

M. Crohn and Ulcerative Colitis.

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The assessment of inflammatory activity in the intestinal diseases of Morbus Crohn or Ulcerative Colitis in man can be carried out using a variety of different techniques, from the measurement of conventional non-invasive acute-phase inflammatory markers in blood (e. g. C-reactive protein) to direct assessment by colonoscopy with intestinal biopsy. However, most of these techniques have significant limitations: inflammatory markers such as C-reactive CRP are not specific for M. Crohn or Ulcerative Colitis and colonoscopy is cumbersome and expensive. Furthermore it is important to differentiate between inflammatory bowel disease and irritable bowel syndrome (1, 6, 7, 14, 17).

Calprotectin is a calcium and zink-binding protein found in all cells, tissues and fluids in the body. Calprotectin is a major protein in neutrophilic granulocytes and macrophages and accounts for as much as 60 % of the total protein in the cytosol fraction in these cells. It is therefore a surrogate marker of neutrophile turnover. When externalized to cells, calprotectin has immuno-modulatory, anti-microbial und anti-proliferative effects. Its concentration in stool correlates with the intensity of neutrophile infiltration of the intestinal mucosa and with the severity of inflammation. Detecting calprotectin is useful for a variety of reasons (1, 5, 6, 7, 8, 10, 14, 17):

- Differential diagnosis between inflammatory bowel disease and irritable bowel syndrome
- Differential diagnosis between active intestinal inflammation and non-inflammatory processes such as fibrous strictures and fistulas
- Monitoring of therapy
- Remission or relapse
- High negative predictive value for inflammatory bowel diseases

Please note: our laboratory uses the reference range of < 50 mg/l. Using this cut-off limit, elevated values can be found in patients with colorectal cancer.

Specimen requirement:

One faeces specimen of approx. 1-2 gr., sent FROZEN. The stool collection should be collected void of any household cleaners/detergents as they can influence the analysis. Stool tubes available on request.

Method:	ELISA
Reference range:	< 50 mg/l
Median for inflammatory bowel diseases:	1722 mg/l (200 – 20000 mg/l)
Median for colorectal cancer:	350 mg/l
Median for healthy people:	25 mg/l
Set-up:	Tuesdays and Thursday
Result ready:	same day

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