Calprotectin

Calprotectin is a protein found in neutrophils. It is a surrogate marker of neutrophil turnover and is thus elevated in a number of inflammatory conditions. When measured in faeces it provides a direct index of neutrophil recruitment into the bowel and is thus a marker of bowel inflammation.

Method

Immundiagnostik ELISA utilising two monoclonal anti human calprotectin antibodies

Reference ranges

> 50 mg/kg = positive

100 - 150 mg/kg = bowel inflammation

> 150 mg/kg = consistent with active inflammatory bowel disease

Use

The diagnosis and management of patients presenting to gastroenterologists with chronic diarrhoea has been hampered by lack of reliable specific non invasive marker. Faecal calprotectin gives a better clinical performance than other diagnostic tests such as ESR, CRP and serological markers in distinguishing organic bowel disease (IBD) from functional bowel disorders (IBS). It appears useful for adults and children (In children, faecal calprotectin may have higher sensitivity and specificity for IBD than in adults).

Faecal calprotectin is also useful for monitoring disease activity e.g. relapse and response to treatment.

Assay

Intra-assay CV (%)

Calprotectin (mg/kg)	36.8	= 19.7
	205.8	= 8.4

The protein is highly stable in faeces (one week at ambient temperature). We recommend freezing the sample for storage prior to sending for assay

Specimen type

Faeces (1-5g in a plastic universal container)

Note the same sample can be used for both calprotectin & faecal elastase assays

Storage

Fridge (< 5 days) or freeze for long term storage

Transport

First class post, ambient temperature
(avoid weekend arrival)

www.clinbiochem.info

Address for specimens

Department of Clinical Biochemistry
Rotherham Hospital
Moorgate Road
Rotherham, S60 2UD

Cost

Calprotectin = £25

Combined assay with Faecal Elastase-1 = £47

Turnaround

Calprotectin and Elastase assays performed approximately every 10 working days.

External QA

No EQA at present

Contact person

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Elastase - 1

Pancreatic elastase - 1 (FE-1) is a protease enzyme synthesised by the acinar cells of the pancreas. It remains undegraded during intestinal transit. Its concentration in faeces thus reflects exocrine pancreatic function.

The test may be used to assess pancreatic insufficiency in patients who are still taking pancreatic extracts as results are not influenced by substitution therapy.

Method

Bioserv Diagnostics double sandwich ELISA using a polyclonal anti human faecal elastase antibody

Note that high water content of stools is likely to present a dilution effect on the concentration of FE-1, as such please avoid submitting such stools for assay.

Uses

FE-1 is increasingly used as a non-invasive investigation for assessment of chronic pancreatitis, cystic fibrosis and other cases of exocrine pancreatic dysfunction.

Reference ranges

< 100 ug/g = severe exocrine pancreatic insufficiency

100 - 200 ug/g = moderate exocrine pancreatic insufficiency

> 200 ug/g = normal exocrine pancreatic function

Specimen type

Faeces (1-5g in a plastic universal container)
Note the same sample can be used for both faecal elastase & calprotectin assays.

Storage

Fridge (< 5 days) or freeze for long term storage

Transport

First class post, ambient temperature
(avoid weekend arrival)

Address for specimens

Department of Clinical Biochemistry
Rotherham Hospital
Moorgate Road
Rotherham, S60 2UD

Cost

Elastase -1 = £24.50

Both Elastase and calprotectin assays on same sample = £47

Turnaround

Calprotectin and Elastase assays performed approximately every 10 working days.

External QA

No EQA at present

Contact person

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