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ML3289

Issue Date: September 2017  
Review Date: September 2020

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# Faecal Calprotectin Test - CALPR

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## Sending Specimens for Analysis

Sample requirement: A random stool sample provided in a suitable container.

- Faecal Calprotectin is stable in faeces at RT and 4°C for up to 6 days<sup>1</sup>.
- For longer term storage, freeze samples at -20C.
- Please send samples in a sealed bag at ambient temperature.
- Samples should be sent via first class post

## Faecal Calprotectin Assay

Faecal calprotectin is detected using the Buhlmann Calprotectin ELISA kit (EK-CAL<sup>®</sup>)<sup>2</sup>. The kit is designed for the extraction and quantification in vitro determination of human calprotectin (MRP8/14; S100A8/S100A9) in stool samples.

## Analysis of wet stool samples

High water content of stools can have a dilution effect on the concentration of Faecal Calprotectin measured and give misleading low results. Our own audits have shown this affects 18% of all samples we receive. To overcome this problem we suggest repeat analysis once a more formed stool sample is available.

## Reference Ranges

Ranges and cut-off values are dependant on faecal extraction method and ELISA technique.

Please contact laboratory for Primary care patient pathway that has been constructed using Buhlmann<sup>®</sup> ELISA method and the quick prep<sup>®</sup> extraction technique.

## Clinical Use of Faecal Calprotectin

Faecal Calprotectin is a protein used in the assessment of intestinal inflammation. It is a major protein in the neutrophilic granulocytes and the macrophages<sup>3</sup>, which account for 60% of the total protein in the cytosol fraction of these cells. This kind of protein can resist degradation caused by intestinal bacteria. Therefore it is increased in gut inflammation and is a sensitive and specific marker for determination of disease activity.

Faecal Calprotectin is increasingly being used as a front line test in patients to distinguish between organic and non organic intestinal disease. The faecal calprotectin results have been shown to correlate closely with endoscopic grading of ulcerative colitis hence the clinical utility of this test is far superior to conventional markers such as ESR and CRP.

Faecal Calprotectin has been shown to correlate closely with endoscopic disease activity in Crohn's Disease (CD)<sup>4</sup> and was the only biomarker that could discriminate inactive from mild, moderate and highly active disease. This marker has also been shown to be very effective in different patient groups. Several research groups have shown the effectiveness of faecal calprotectin in the paediatric population with a sensitivity of 70% and specificity of 93% at a cut off of 50ug/g<sup>5</sup>.

## References

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