

Efficient, Convenient and Hygienic Extraction of Stool Samples with BÜHLMANN CALEX® Cap

Weighing the sample is still considered the Gold-Standard sample extraction method for calprotectin. However, this is a time consuming and inconvenient method.

Providing very high correlation to the weighing extraction method, the BÜHLMANN CALEX® Cap is a stool extraction device containing a measured amount of extraction buffer. The features of the CALEX device are unique, providing a safe and efficient extraction process. It improves laboratory workflow and efficiency by eliminating the need for sample weighing, pipetting or decanting.

CALEX is fully compatible with automated procedures such as the BÜHLMANN fCAL® turbo random access immunoturbidimetric calprotectin assay.

Application as a primary tube for DS2 ELISA robots and many clinical chemistry analysers enables direct loading of the extraction device onto sample processors. It is for exclusive use with all BÜHLMANN calprotectin assays and the fPELA Assay for Faecal Pancreatic Elastase.

CALEX offers ease of use for laboratory personnel and patients, providing an optimised sample dilution for maximum efficiency in stool extraction. The extract stability of 7 days at room temperature allows batching to suit the laboratory routine.

Fit for Purpose?

In a recent letter to the Annals of Clinical Biochemistry¹ a team of scientists from Black Country Pathology Services and the Royal Wolverhampton NHS Hospitals Trust, reported on their evaluation of calprotectin results measured from CALEX Cap extracts compared to the manual weighing extraction method.

The team compared 56 homogenized stool samples and 11 external quality assurance (EQA) samples.

Interbatch imprecision and stability of extracts were also evaluated.

Extracts were analysed for calprotectin using BÜHLMANN fCAL turbo reagent on an Abbott ARCHITECT c16000. Data is presented in Figure 1.

The team concluded that "Considering the non-homogenous nature of stool samples, Calex devices demonstrate similar accuracy and imprecision to the gold standard manual method for extracting faecal calprotectin. Our results differ from those previously reported² but may be explained by the fact that all assays in this report were performed by a single operative.

Compared with the manual method, the Calex was easy to use, reduced staff time, used fewer consumables (such as inoculation loops and centrifugation tubes) and improved health and safety by avoiding further direct contact with the specimen after initial sampling. Calex devices are fit for purpose, easy to use and offer a quicker extraction process compared with manual weighing and will therefore enable increasing demands of a faecal calprotectin service."

References

1. Kaur S, et al. Annals of Clinical Biochemistry 2020, Vol. 57(4) 332–333 journals.sagepub.com/home/acb
2. Juricic G, Brenic T, Tesija-Kuna A, et al. Faecal calprotectin determination: impact of pre-analytical sample treatment and stool consistency on within- and between-method variability. Biochem Med (Zagreb) 2019; 29: 010707.

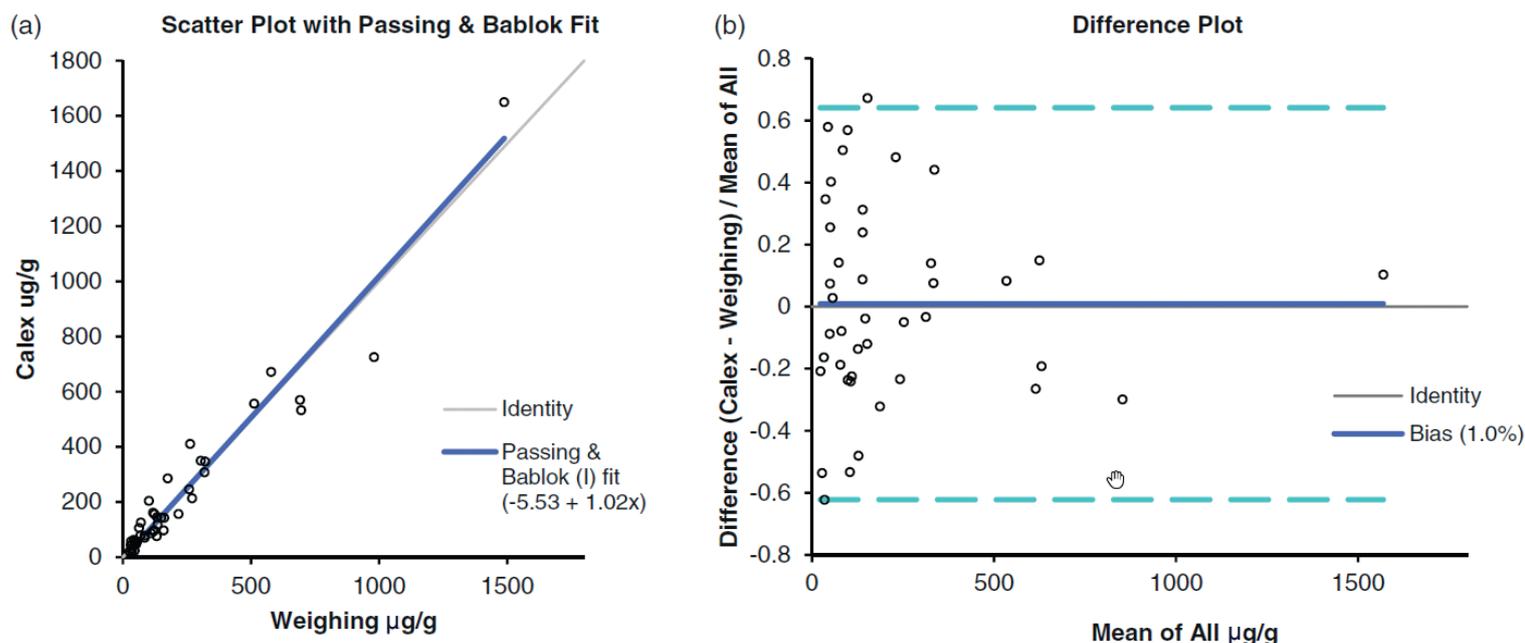


Figure 1
Comparison of manual weighing to commercial CALEX devices for the measurement of calprotectin following extraction from stool samples. (a) Passing-Bablok linear regression analysis and (b) Bland-Altman difference plot.¹