BÜHLMANN fCAL® turbo

Research Report

Faecal Calprotectin Assay Proves Consistent between Multiple Analysers

Originally published in Leading Edge **1-2017**

There has been much interest in the BÜHLMANN fCAL® turbo assay since its UK launch in early 2016.

With the increasing demand for faecal calprotectin tests there is a growing need for a flexible, random access, high throughput assay that can be performed on clinical chemistry platforms.

fCAL turbo studies have been conducted all around Europe on many different analysers. During these evaluations some laboratories undertook sample swaps with BÜHLMANN in Switzerland, using frozen sample extracts, so that results from different analysers could be compared.

BÜHLMANN Laboratories have a stand-alone Mindray BS-380 analyser whilst the other participating laboratories used routine analysers from Siemens, Beckman, Roche, Abbott, Thermo Scientific and Mindray.

Excellent results were achieved on all systems as can be seen from the data in Table 1 and the graphical representations shown on pages 2 and 3.

Consistency in calprotectin concentrations from a range of samples was achieved when they were tested across multiple analysers.

The samples were tested by different technicians, using different fCAL turbo reagent lots, on different analysers, at different laboratories, in different countries on different days!

With an average R^2 of 0.985, the calprotectin concentrations obtained with fCAL turbo on different analysers are highly comparable. This offers excellent confidence in comparability of data between sites and the movement of patients between test locations. It provides ultimate flexibility for future proofing calprotectin services due to analyser upgrades or a complete change to different analyser brand.

A more detailed technical evaluation comparing the performance of the fCAL turbo on the Cobas c501 and the Mindray BS-340 has been published by the University of Uppsala and the Karolinska Institute Stockholm, Sweden in September 2016:
Nilsen T, Sunde K, Hansson LO, Mandic Havelka A, Larsson A.
A novel turbidimetric immunoassay for fecal calprotectin optimized for routine chemistry analyzers.
J Clin Lab Anal. 2016 Sep 15.
www.ncbi.nlm.nih.gov/pubmed/27629827

Table 1. Frozen faecal samples tested for calprotectin using the BÜHLMANN fCAL® turbo assay on Mindray BS-380 vs. other analysers.

Analyser Used	Sample Size n=	Test Country	Passing-Bablok Fit	R^2
ADVIA	96	Norway	y= 0.9950x – 0.2333	0.9100
Architect	20	Germany	y= 1.0417x – 0.0808	0.9980
AU 640	20	France	y= 1.0070x + 5.9532	0.9931
Cobas c111	34	Sweden	y= 0.9260x – 6.4291	0.9740
Cobas c501	44	Sweden	y= 1.0255x + 1.7942	0.9990
Cobas c701	15	Germany	y= 1.0555x + 5.2358	0.9720
DxC 600	15	Switzerland	y= 1.0050x – 3.2716	1
INDIKO	21	Switzerland	y= 0.9621x – 0.9362	0.9993
Konelab 30i	34	Switzerland	y= 0.9748x – 3.2830	0.9974
Mindray BS-400	66	Norway	y= 1.0065x + 4.3552	1
XPT	23	Germany	y= 1.1004x – 18.191	0.9880

BÜHLMANN fCAL® turbo is the ideal faecal calprotectin test solution for high throughput applications in the routine laboratory, enabling a short turnaround time from stool sample to reportable result.

The turbidimetric immunoassay is based on the standardization of the BÜHLMANN fCAL® ELISA, which is globally established in laboratories for calprotectin measurements.

The combination of the test with the BÜHLMANN CALEX® Cap extraction device simplifies the cumbersome procedure for stool pre-analytics and is adapted to use on clinical chemistry analysers. The time to result is 10 minutes and the assay range is 20 - 8000 µg/g.

To find out more please visit
www.alphalabs.co.uk/fcalturbo

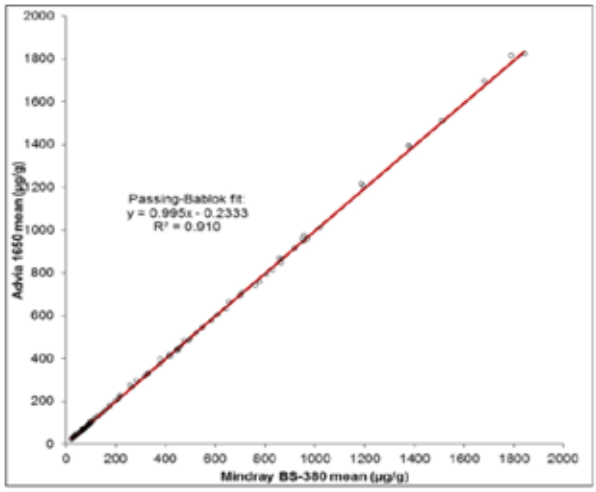
BÜHLMANN

alpha laboratories

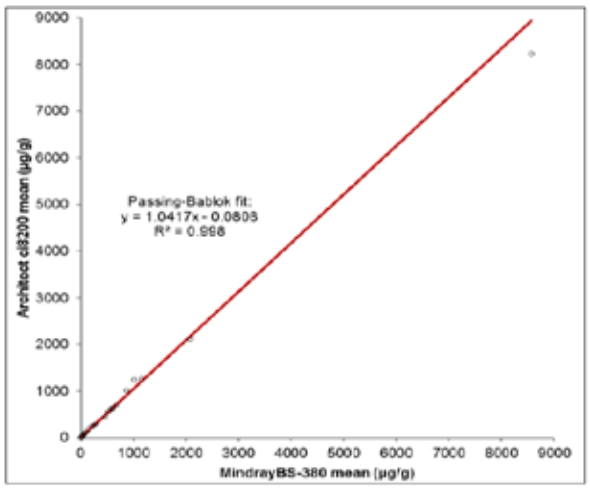
Email: sales@alphalabs.co.uk
Web: www.alphalabs.co.uk

Frozen faecal samples tested for calprotectin using the BÜHLMANN fCAL® turbo assay on Mindray BS-380 vs. other analysers.

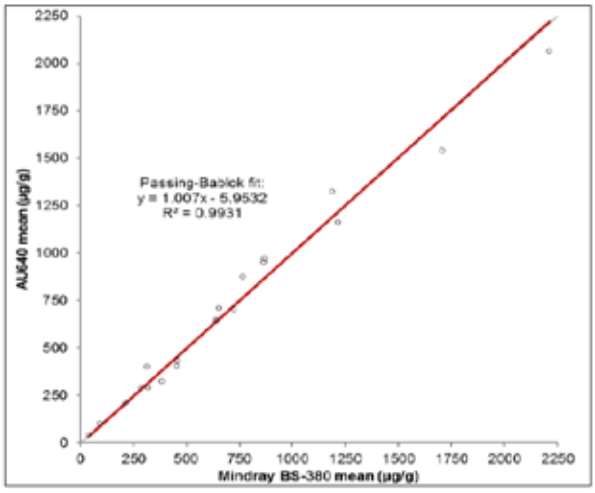
Originally published in Leading Edge **1-2017**



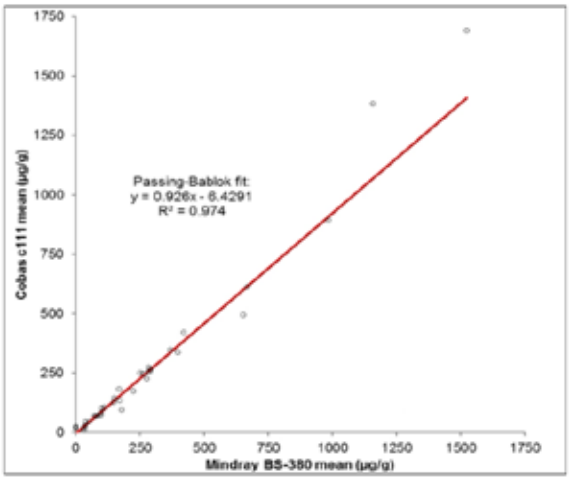
Mindray BS-380 vs ADVIA 1650, n=96



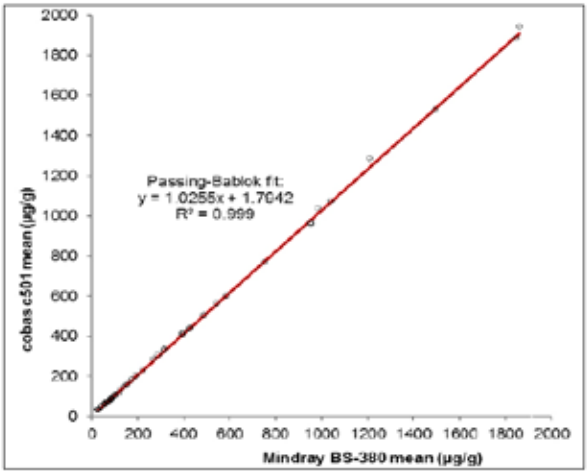
Mindray BS-380 vs Architect, n=20



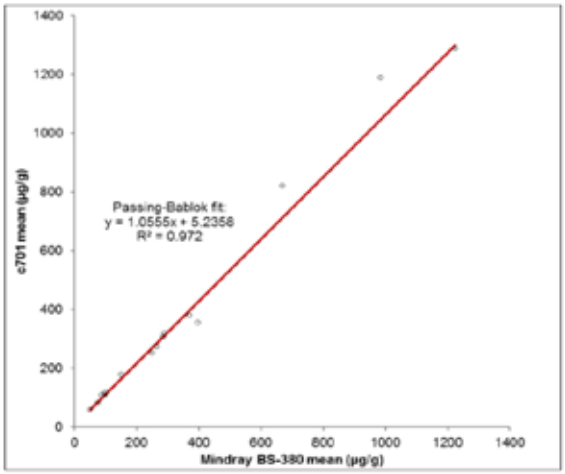
Mindray BS-380 vs. AU 640, n=20



Mindray BS-380 vs cobas c111, n=34



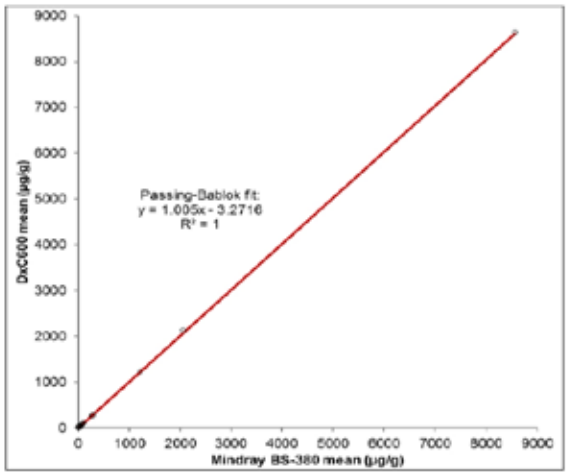
Mindray BS-380 vs cobas c501, n=44



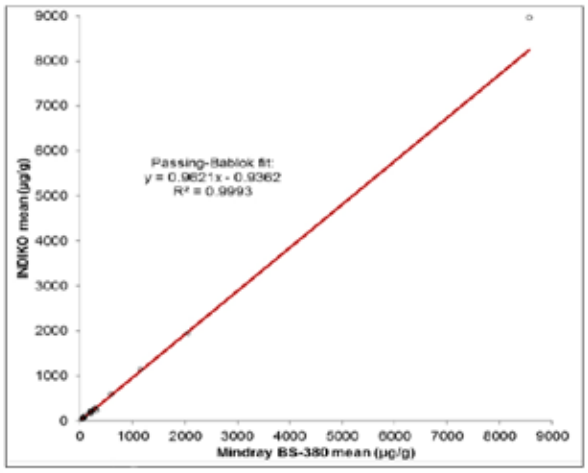
Mindray BS-380 vs cobas c701, n=15

Frozen faecal samples tested for calprotectin using the BÜHLMANN fCAL® turbo assay on Mindray BS-380 vs. other analysers.

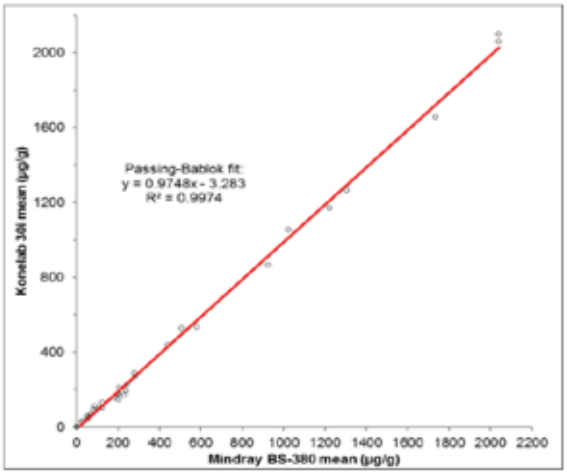
Originally published in Leading Edge **1-2017**



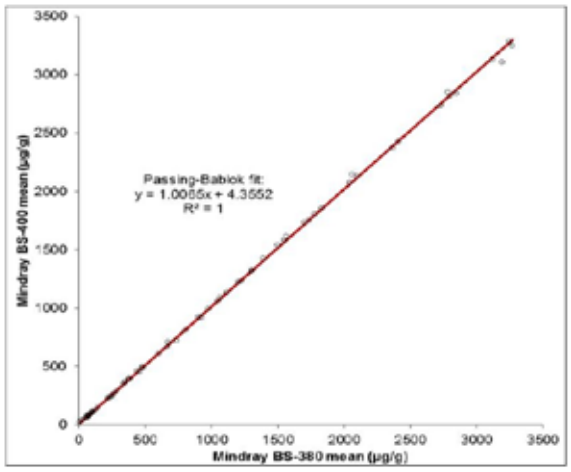
Mindray BS-380 vs. DxC 600. n=15



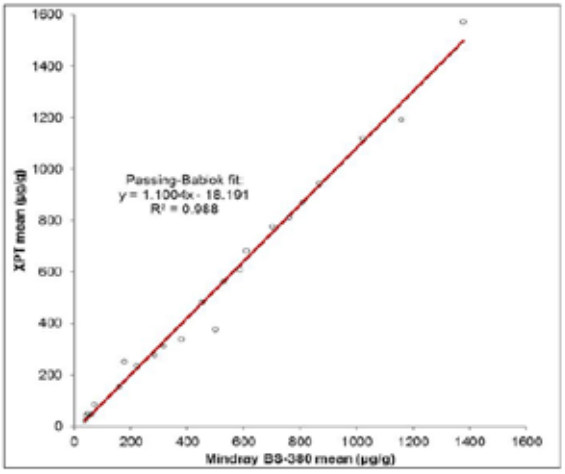
Mindray BS-380 vs INDIKO n=21



Mindray BS-380 vs. Konelab 30i. n=34



Mindray BS-380 vs. Mindray BS-400, n=66



Mindray BS-380 vs XPT n=23

alpha laboratories
Email: sales@alphalabs.co.uk
Web: www.alphalabs.co.uk