

RECOMBINANT CALPROTECTIN AS A PROMISING TOOL TO HARMONIZE MRP-8/MRP-14 IMMUNOASSAYS

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Poster

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A recombinant Mrp8/Mrp14-fusion protein with controllable oligomeric state shows promise as standardized calibrator material for fecal and serum calprotectin immunoassays.

KEY POINTS

- Fecal calprotectin is established as the gold standard for diagnostics and monitoring of inflammatory bowel diseases, but standardization differs significantly among assay providers, leading to varying clinical cut-offs.
- A recombinant Mrp8/Mrp14-fusion protein was produced in *E. coli* that can be purified as a dimer and transformed into a tetramer upon calcium addition, mimicking native calprotectin oligomeric states.
- The recombinant protein showed antibody affinities comparable to native calprotectin and linear correlations in ELISA and turbidimetric assays, with turbidimetric measurements of 17 human serum samples showing perfect correlation between native and recombinant calibrators (slope=1.009; $R^2=0.999$).
- The authors conclude that this recombinant protein, which can be produced in large quantities with controllable oligomeric state, presents a promising tool to overcome current fecal calprotectin standardization problems and prevent future serum calprotectin standardization discrepancies.
- The study authors are employees of BÜHLMANN Laboratories AG.

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