

Proteomic analysis used to ID fecal biomarkers for IBD

September 20 2022



Three novel fecal biomarkers have been identified for inflammatory

bowel disease (IBD), according to a study published online Aug. 30 in the *Journal of Crohn's & Colitis*.

Roberta Vitali, Ph.D., from ENEA in Rome, and colleagues used a proteomic approach to identify new biomarkers of gut inflammation in the stools of IBD patients. Proteomic analysis was performed in patients with active Crohn disease (CD) and CD in remission and in controls by two-dimensional fluorescence difference gel electrophoresis (2-DIGE) and matrix-assisted laser desorption/ionization-time of flight (MALDI-TOF)/TOF mass spectra (MS).

The researchers detected 70 spots in the stools of patients with active CD or CD in remission and in controls using 2-DIGE analysis. Twenty-one proteins were identified in MALDI-TOF/TOF MS analysis, with the best correlation with levels of intestinal infection for chymotrypsin C, gelsolin, and Rho GDP-dissociation inhibitor 2 (RhoGDI2). Results were confirmed in a second cohort with 57 CD cases, 60 [ulcerative colitis](#) (UC) patients, and 31 controls. There was a significant correlation seen for the identified fecal markers with severity of intestinal inflammation in IBD patients. In [receiver](#) operating characteristic curve analyses, gelsolin and RhoGDI2 in CD, and RhoGDI2 in UC, have higher sensitivity and specificity compared with fecal calprotectin for discriminating between patients and controls.

"The use of biomarkers able to reveal subclinical disease activity may be extremely useful to closely monitor the disease course and better tailor treatment, especially in those patients who are in apparent clinical [remission](#) that could hide an underlying residual inflammation," the authors write.

Several authors are listed on patents related to prognostic markers and IBD.

More information: Roberta Vitali et al, Proteomic Analysis Identifies Three Reliable Biomarkers of Intestinal Inflammation in the Stools of Patients With Inflammatory Bowel Disease, *Journal of Crohn's and Colitis* (2022). [DOI: 10.1093/ecco-jcc/jjac110](https://doi.org/10.1093/ecco-jcc/jjac110)

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