



GASTRO-INTESTINAL (GI) EFFECTS

STOOL TEST

Dr. Donna F. Smith

Table of Contents

What is the GI Effects Fundamentals?	2
#1 Digestion / Absorption	2
#2 Inflammation / Immunology	2
#3 Gut Microbiome	2
Additional Biomarkers Available	3
What the GI Effects Identifies	3
Advantages of GI Effects	4
What to Expect from Stool Testing	4
References	5



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What Is The GI Effects Fundamentals?

The GI Effects Fundamentals stool profile offers valuable insight into digestive function, intestinal inflammation, intestinal microbiome and parasitology.

The core biomarkers from the GI Effects Fundamentals Profile provide key clinical information for three main gastrointestinal functional areas (markers denoted with * are not available in NY):

#1 Digestion / Absorption

1. **Pancreatic Elastase-1** is a marker of exocrine pancreatic function.
2. **Products of Protein Breakdown** are markers of undigested protein reaching the colon.
3. **Fecal Fat** is a marker of fat breakdown and absorption.

#2 Inflammation / Immunology

1. **Calprotectin** is a marker of neutrophil-driven inflammation. Produced in abundance at sites of inflammation, this biomarker has been proven clinically useful in differentiating between Inflammatory Bowel Disease (IBD) and Irritable Bowel Syndrome (IBS).^{1,2}
2. **Eosinophil Protein X** is a marker of eosinophil-driven inflammation and allergic response.
3. **Fecal Occult Blood** detects hidden blood.

#3 Gut Microbiome

1. **Metabolic indicators** demonstrate specific and vital metabolic functions performed by the microbiota. These include:
 - a. **Beneficial Short-Chain Fatty Acids (SCFA)**, including **n-Butyrate**, are fermentation products produced by bacterial action on fiber and resistant starch. N-butyrate is the primary fuel source for colonocytes.
 - b. **Beta-glucuronidase*** is an enzyme produced by bacteria that relates to the metabolism and detoxification of certain substances.
2. **Bacteria and mycology cultures** demonstrate the presence of specific beneficial and pathogenic organisms.
3. **Bacteria and mycology sensitivities** are provided for pathogenic or potentially pathogenic organisms that have been cultured.



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Additional Biomarkers Available

1. Parasitology
 - a. Includes microscopic fecal specimen examination for ova and parasites (O&P), the gold standard of diagnosis for many parasites.
 - b. 6 Polymerase chain reaction (PCR) targets* detect common protozoan parasites including *Blastocystis spp.*, *Cryptosporidium parvum/hominis*, *Cyclospora cayetanensis*, *Dientamoeba fragilis*, *Entamoeba histolytica*, and *Giardia*.
2. Secretory IgA*
3. *Campylobacter*
4. *Clostridium difficile*
5. *Escherichia coli*
6. *Helicobacter pylori**
7. Macroscopic Exam for Worms
8. KOH Preparation for Yeast
9. Zonulin Family Peptide

What The GI Effects Identifies

The GI Effects Fundamentals Profile can reveal important information about the root cause of many common gastrointestinal symptoms such as gas, bloating, indigestion, abdominal pain, diarrhea, and constipation.



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Advantages of GI Effects

What advantage does the GI Effects Fundamentals offer compared to other diagnostics?

A structured fecal biomarker panel offers the advantage of assessing multiple functional areas that may be contributing to symptoms. For example, diarrhea can originate from multiple causes including pancreatic exocrine insufficiency, inflammation, food allergies, or the presence of a pathogenic or potentially pathogenic organism.^{3,4}

GI Effects profiles utilize the best technical platforms to assess gut health, including Matrix Assisted Laser Desorption Ionization Time-of-Flight Mass Spectrometry (MALDI-TOF MS) technology for cultivable species identification, as well as stool-based biomarkers for gastrointestinal diagnostics.

What To Expect From Stool Testing?

The GI Effects Fundamentals Profile biomarkers provide comprehensive information for the development of strategic interventions. Symptoms often improve as identified functional imbalances and inadequacies become normalized through targeted dietary, lifestyle, and supplementation therapeutics.



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References

1. Menees SB, et. al. A meta-analysis of the utility of C-reactive protein, erythrocyte sedimentation rate, fecal calprotectin, and fecal lactoferrin to exclude inflammatory bowel disease in adults with IBS. *Am J Gastroenterol*. 2015 Mar;110(3):444-54.
2. Dabritz J, Musci J, Foell D. Diagnostic utility of fecal biomarkers in patients with irritable bowel syndrome. *World J Gastroenterol*. 2014 Jan;20(2):363-375.
3. Parsons K, et. al. Novel testing enhances irritable bowel syndrome medical management: the IMMINENT study. *Glob Adv Health Med*. 2014 May;3(3):25-32.
4. Goepp J, et. al. Frequency of abnormal fecal biomarkers in irritable bowel syndrome. *Glob Adv Health Med*. 2014 May;3(3):9-15.