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**Lab Dept:** Microbiology/Virology

**Test Name:** GASTROINTESTINAL PATHOGEN PANEL PCR ,  
STOOL

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**General Information**

**Lab Order Codes:** GIP

**Synonyms:** Multiplex PCR,GI Panel

**CPT Codes:** 87507 – GI Pathogen DNA 12-25 Targets

**Test Includes:**

- Campylobacter species (Campylobacter jejuni/Campylobacter coli  
Campylobacter upsaliensis)
- Clostridioides (Clostridium) difficile toxin A/B
- Plesiomonas shigelloides
- Salmonella species
- Vibrio species (Vibrio parahaemolyticus, Vibrio vulnificus, Vibrio cholerae)
- Vibrio cholerae
- Yersinia species
- Enteroaggregative Escherichia coli (EAEC)
- Enteropathogenic E coli (EPEC)
- Enterotoxigenic E coli (ETEC)
- Shiga toxin
- E coli O157
- Shigella/Enteroinvasive E coli (EIEC)
- Cryptosporidium species
- Cyclospora cayetanensis
- Entamoeba histolytica
- Giardia
- Adenovirus F 40/41
- Astrovirus
- Norovirus GI/GII
- Rotavirus A
- Sapovirus

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**Logistics**

**Test Indications:** The FilmArray gastrointestinal panel is a multiplex PCR test capable of qualitatively detecting DNA or RNA of 22 pathogens (bacteria, parasites, and viruses) in approximately 1 hour from stool in Cary Blair transport medium.

This test is used to diagnose infection by Campylobacter species, Clostridioides difficile, Plesiomonas shigelloides, Salmonella species, Vibrio species, V cholerae, Yersinia species, enteroaggregative Escherichia coli, enteropathogenic E coli, enterotoxigenic E coli, Shiga toxin-producing E coli, E coli O157, Shigella/Enteroinvasive E coli, Cryptosporidium species, Cyclospora cayetanensis, Entamoeba histolytica, Giardia lamblia,

adenovirus F 40/41, astrovirus, norovirus, rotavirus, and sapovirus.

**Lab Testing Sections:** Microbiology/Virology -Sendouts

**Referred to:** Mayo Clinical Laboratory (MML Test Code: EPS1)

**Phone Numbers:** MIN Lab: 612-813-6280  
STP Lab: 651-220-6550

**Test Availability:** Daily, 24 hours

**Turnaround Time:** 1 - 2 days

**Special Instructions:** Specimen must arrive within 96 hours of collection.

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### ***Specimen***

**Specimen Type:** Stool, fresh

**Container:** Stool collection container

**Draw Volume:** 1 gram or 5mL (Minimum: 1mL) stool

**Processed Volume:** Same as Draw Volume

**Collection:** Random stool collection

**Special Processing:** Lab Staff: Place fresh stool in preservative within 2 hours of collection. Submit a representative portion of stool in container with transport medium (Either Cary-Blair or Para-Pak C and S [Mayo SupplyT058]). Submit sample in original Cary Blair medium container (not an aliquot). Send at ambient temperatures.

**Patient Preparation:** N/A

**Sample Rejection:** Mislabeled or unlabeled specimens; specimen older than 96 hours, frozen specimen, commercial transport media other than liquid Cary Blair (eg, ETM, Para-Pak Enteric Plus; Copan FecalSwab/ESwab), Cary Blair gel swabs, products containing formalin, SAF, PVA fixative, EcoFix preservative, rectal swabs, stool swab, gel swabs, endoscopy specimens, unpreserved stool

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### ***Interpretive***

**Reference Range:** Negative (for all targets)

**Critical Values:** N/A

**Limitations:** A negative result should not rule-out infection in patients with a high pretest

probability for gastrointestinal infection. The assay does not test for all potential infectious agents of diarrheal disease. Positive results do not distinguish between a viable or replicating organism and the presence of a nonviable organism or nucleic acid, nor do they exclude the potential for coinfection by organisms not contained within the panel.

Results of the panel are intended to aid in the diagnosis of illness and are meant to be used in conjunction with other clinical and epidemiological findings. In some cases, there may be local public health requirements that impact Mayo Clinic Laboratories (MCL) clients and require additional testing on specimens with positive results from this panel. Clients should familiarize themselves with local requirements. MCL recommends that clients retain an aliquot of each specimen submitted for this test to perform additional testing themselves, as needed. If necessary, selected add-on tests can be performed by MCL at an additional charge, as detailed below. **Call Mayo Clinical Laboratories within 96 hours of specimen collection** to request supplemental testing for positive GIP test results:

<b>Gastrointestinal Pathogen Panel Positive for</b>	<b>Client Action</b>
<i>Campylobacter</i> species <i>Salmonella</i> species <i>Shigella/Enteroinvasive E coli</i> <i>Yersinia</i> species	Request add on test: STL/Enteric Pathogens Culture, Stool (for the <i>Shigella/Enteroinvasive E coli</i> target, the culture will assess for <i>Shigella</i> species only)
<i>Vibrio</i> species	Request add on test: VIBC / <i>Vibrio</i> Culture, Stool
Shiga toxin-producing <i>E coli</i> <i>E coli</i> O157	Request aliquot of stool be returned to client for submission to their state or city department of health

Mayo will report such culture results to the client for STL / Enteric Pathogens Culture or VIBC / *Vibrio* Culture when ordered. If cultures are positive and the client is in need of the isolated organism (eg, *Campylobacter*, *Salmonella*, *Shigella*, *Yersinia*, or *Vibrio* species) for submission to a public health laboratory, the client needs to call MCL and request that the isolates be returned to them (the client). The client will be responsible for submitting the isolates to the appropriate public health department. Positive culture results will also be reported via the Electronic Clinical Laboratory Reporting System (ECLRS). Alternatively (not preferred), clients who want a patient specimen returned from MCL should call MCL as soon as possible and at the latest within 96 hours of specimen collection to request that MCL return an aliquot of the submitted specimen to them. Clients will be responsible for submitting specimens to appropriate public health departments.

**Methodology:**

Multiplex Polymerase Chain Reaction (PCR)

**References:**

[Mayo Clinical Laboratories](#) February 2019

