

# Parasites and Viruses Profiling by PCR

## Fecal detection

Enteric infectious processes are a type of pathology of special clinical interest due to their high incidence in the general population. The most common symptoms include abdominal pain, diarrhea (associated or not with vomiting), fever and general discomfort.

Although these types of infections are often self-limited processes, in certain population groups such as children, the elderly or immunocompromised patients, complications such as hepatitis, peritonitis, intestinal obstruction or even skin manifestations may occur.

Since different pathogens (bacteria, viruses and parasites) can cause similar symptoms, accurate etiologic diagnosis is key to more targeted and therefore more effective treatment.

## Parasites and Virus Profiling by PCR

### Parasites in feces by PCR

Intestinal parasitosis is a worldwide pathology, being more common in emerging countries, where it has a high morbidity. In developed countries, the incidence of parasitosis has increased significantly due to the extensive distribution and global trade of food, immigration and the increase in international travel to endemic areas.

In Spain, intestinal parasitosis constitutes 10% of the cases of patients with gastrointestinal symptoms<sup>1</sup>. This percentage doubles in pediatric patients.



1. Martín del Barco, O. H., Álvarez Manzanares, P., & López Izquierdo, R. (2009). Parasitosis intestinal.

Diagnosis has traditionally been made by stool microscopic examination, which has limited sensitivity, involved serial sampling and only allowed the diagnosis of acute and patent infection. In contrast, progress in the molecular study of these parasites has allowed the development of new analytical tools that optimize diagnosis, allow treatment monitoring and facilitate epidemiological studies.

The **Fecal Parasite Profile by PCR** includes the detection of 6 protozoa and 9 helminths of clinical relevance:

- *Giardia lamblia / intestinalis*
- *Blastocystis hominis*
- *Cryptosporidium* spp.
- *Dientamoeba fragilis*
- *Entamoeba histolytica*
- *Cyclospora cayetanensis*
- *Ascaris* spp.
- *Taenia* spp.
- *Enterocytozoon* spp. / *Encephalitozoon* spp.
- *Enterobius vermicularis*
- *Strongyloides* spp.
- *Trichuris trichiura*
- *Necator americanus*
- *Ancylostoma* spp.
- *Hymenolepis* spp.

### Viruses in feces by PCR

More than half of acute infectious diarrheas are caused by viruses. The enteric viruses that cause infection most frequently are *Norovirus*, *Rotavirus*, *Adenovirus*, *Astrovirus* y *Sapovirus*.

The **Fecal Viruses Profile by PCR** allows the detection of:

- *Norovirus GI y GII*
- *Rotavirus A*
- *Adenovirus serotipo 40/41*
- *Astrovirus*
- *Sapovirus*

### For whom is it recommended?

**Parasites and Viruses Profiling by PCR** are a molecular diagnostic tool that has been designed for the accurate detection of pathogenic microorganisms in feces, as a complement to the study of intestinal microbiome or other analyses of enteropathogenic bacteria.

Especially indicated for:

- Patients with acute digestive symptoms: diarrhea, vomiting, abdominal pain, etc. and clinical suspicion of viral infection.
- Patients with symptoms (intestinal and extraintestinal) suggestive of parasitic infection.

### Advantages of the profiles

**Parasites and Viruses Profiling by PCR** have the following advantages:

- **Simultaneous detection.** Allows the detection of several microorganisms in a single test.
- **Detection of the parasite in any of its stages** (egg, larva or adult).
- **Sensitivity and accurate diagnosis.** RT-PCR analysis allows accurate detection of microorganisms even at low concentrations.
- **Sampling device** that allows to keep the sample stable at room temperature, thus facilitating the sampling of the patient.

### Sampling

**Sample:** 1g of feces collected with the specific device provided by the laboratory.

**Stability:** Room temperature for 4 weeks. It is important that the device is tightly closed to ensure the stability of the sample.

**Documentation:** The test must be prescribed by a specialist.