

GIARDIA Enteric (Stool Antigen) ELISA

INFECTIOUS DISEASES



Qualitative Measurement of Giardia

Parasitic Diseases: Determination of Giardia antigen

Simple

Microwell Enzyme-based assay (ELISA)
Rapid turnaround
Room temperature incubation

Convenient

Ready to use reagents
Controls provided

ORDERING

Catalog No.	Description
7060	Campylobacter
7063	Cryptosporidium
7066	E. coli O157
7069	Giardia
7072	Verotoxin
7075	C. difficile Toxins A&B
7078	E. histolytica



BIOMERICA

CE and EN ISO 13485 compliant

INTENDED USE

The Biomerica Giardia ELISA is intended for the qualitative detection of Giardia antigen in fecal specimens. This assay is intended for *in vitro* diagnostic use only.

BACKGROUND

Giardia lamblia is a flagellated protozoan parasite which exists in two forms – a noninfectious trophozoite inhabiting the small intestine, and the highly infectious cyst form. The trophozoite is extremely labile, and survives for only hours outside the body. The cyst form, however, may survive for a matter of days, and is responsible for the disease giardiasis.¹

Symptoms of giardiasis normally begin one to two weeks after becoming infected. Symptoms include diarrhea, gas or flatulence, stomach or abdominal cramps, upset stomach, nausea, malabsorption, and anemia.^{2,3,4} Symptoms may last from two to six weeks, and can lead to weight loss and dehydration. Giardiasis is the most prevalent parasitic disease in the United States and is responsible for an estimated 100 million mild infections and 1 million severe infections each year.⁵

The mode of transmission of Giardia is through fecal-oral ingestion of cysts. Giardia has been found in all animal hosts studied, and water and food contaminated by animal fecal activity is the most common route of infection.⁶ Among groups with inadequate hygiene, infection can occur directly through the fecal-oral route. This mode of transmission is particularly common among young children as well as among male homosexuals.^{2,7,8} Widespread epidemics of giardiasis have been documented in day care centers and by drinking contaminated water.^{2,6,9} Day care centers may be directly or indirectly responsible for 45% of diagnosed Giardia infections in the United States.⁹ One study found 54% of the children at a day care center were infected.²

The most common method of diagnosing giardiasis has been microscopic examination of stool specimens. However, this method requires extensive experience and the presence of intact cysts in the feces. Because of the historically low proficiency of correct microscopic examinations and intermittent excretion of organisms, alternative diagnostic methods have been investigated.^{10,11,12,13,14.}

One important alternative has been the development of an antigen capture enzyme linked immunosorbent assay (ELISA) for use with fecal specimens. These tests have shown comparable or better sensitivity and specificity to experienced microscopic examinations, are simple to perform and do not require the observation of intact organisms.^{11,12,13,14.} Large numbers of specimens can be tested rapidly and objectively, and the procedure is less labor intensive than most microscopy methods.

PERFORMANCE

Study 1: A study was performed with the Biomerica Giardia assay using fresh/frozen specimens, specimens preserved in 10% Formalin and SAF and specimens in Carey-Blair Transport Media. There were a total of 90 specimens used in the study that were identified positive or negative for Giardia by microscopy. Of the 90 specimens, 26 were determined to be positive for Giardia and 64 were negative for Giardia. The results from the study are shown in the following table.

		Microscopy	
		+	-
Biomerica Giardia ELISA	+	26	0
	-	0	64

Sensitivity: 100% (26/26)

Specificity: 100% (64/64)

Study 2: Another study was performed comparing the Biomerica Giardia assay with another commercially available ELISA. The study was performed using fresh/frozen specimens and specimens preserved in 10% Formalin and SAF. There were a total of 86 specimens used in the study that were identified either positive or negative for Giardia by microscopy. Of the 86 specimens, 22 were identified positive for Giardia and 64 were negative for Giardia. The results from the study are shown in the following table.

		Biomerica ELISA	
		+	-
Other Commercial ELISA	+	22	0
	-	0	64

Positive Agreement: 100% (22/22)

Negative Agreement: 100% (64/64)

ORDERING

Catalog No.	Description
7069	Giardia ELISA kit - Qualitative (96 tests)

 and EN ISO 13485:2003 Compliant, Multi-language inserts available

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