

CLINICAL SPECIFICATIONS

GIARDIA LAMBLIA

Pathogen Type:

Giardia lamblia is a flagellated protozoan parasite that colonizes and reproduces in the small intestine. *G. lamblia* causes giardiasis. Giardiasis does not spread via the bloodstream, nor does it spread to other parts of the gastrointestinal tract. Giardiasis remains in the lumen of the small intestine.

Associated With:

Giardiasis^{1,2}

Known Cross-Reactions: Cryptosporidium;¹ actin, actinin, tropomyosin³

Clinical Significance:

The detection of antibodies to *G. lamblia* indicates the patient has increased risk of gastrointestinal disorders including intestinal permeability and autoimmunity against gastrointestinal tract tissues. In humans, the clinical effects of *Giardia* infection range from the asymptomatic carrier state to a severe malabsorption syndrome. Clinical features may range from diarrhea to constipation, nausea, headache, and flatulence. *Giardia* exists in two stages, an active trophozoite stage, and the dormant cyst stage, which is the infective stage.⁴ Published case reports and epidemiologic studies have associated giardiasis with the development of allergies,⁵ reactive arthritis,⁶ chronic enteric disorders,^{7,8} and chronic fatigue.⁸ Furthermore, recurrent Giardiasis may mimic the symptoms of Celiac disease and may simulate clinical and histological picture of active Celiac disease, therefore, patients with persistent giardiasis and failure to thrive should be tested for possible Celiac disease.⁹

This array tests for IgG immune reactivity associated with *Giardia lamblia*. This is not a measurement of acute infection. Equivocal or out-of-range results indicate IgG antibody reactivity to the tested antigen. We tested 288 blood donor sera against *G. lamblia* antigens at optimal dilution, 16% of these donors were IgG reactive.

References:

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3. Peattie, et al. Ultrastructural localization of giardins to the edges of disk microribbons of *Giardia lamblia* and the nucleotide and deduced protein sequence of alpha giardin. J Cell Biol, 1989; 109(5):2323-2335.
4. Savioli, et al. *Giardia* and *Cryptosporidium* join the 'Neglected Diseases Initiative'. Trends Parasitol, 2006; 22:203-208.
5. Di Prisco, et al. Possible relationship between allergic disease and infection by *Giardia lamblia*. Ann Allergy, 1993; 70:210-213.
6. Tupchong, et al. Beaver fever—a rare cause of reactive arthritis. J Rheumatol, 1999; 26:2701-2702.
7. Wensaas, et al. Post-infectious gastrointestinal symptoms after acute Giardiasis. A 1-year follow-up in general practice. Fam Pract, 2010; 27:255-259.
8. Wensaas, et al. Irritable bowel syndrome and chronic fatigue 3 years after acute giardiasis: historic cohort study. Gut, 2012; 61:214-219.
9. Tchidjou, et al. Celiac disease in an adoptive child with recurrent *Giardia* infection. Int J Health Sci (Qassim), 2015; 9(2):193-197.