

CLINICAL SPECIFICATIONS

CRYPTOSPORIDIUM

Pathogen Type:

Cryptosporidium parvum (*C. parvum*) is a protozoan parasite that can cause gastrointestinal illness with diarrhea in humans.

Associated With:

Cryptosporidiosis¹
Ulcerative colitis^{2,3}

Known Cross-Reactions: *Giardia lamblia*⁴

Clinical Significance:

The detection of antibodies to *Cryptosporidium* indicates the patient has increased risk of colon autoimmunity, Celiac disease and non-celiac gluten sensitivity. *Cryptosporidium* is classified as a self-limiting infection. However, it is able to autoinfect, causing persistent, chronic infection.⁵ Autoinfection occurs through the thin-walled oocysts, which excyst once they are separated from the epithelium, and the cycle starts again.^{6,7} Autoantigen remodeling by the parasite is an additional mechanism by which *Cryptosporidium* can induce autoimmunity.⁵ Human tropomyosin-5, which is overexpressed at the site of *C. parvum* infection,⁸ was shown to be an autoantigen capable of inducing a significant B- and T-cell immune response in ulcerative colitis.² When *Cryptosporidium* contaminated public water supply in Sweden, it was shown that gluten intolerance was a risk factor for acquiring Cryptosporidiosis.⁹ Extraintestinal cryptosporidiosis effecting the biliary or respiratory tract and/or, on rare occasions, the pancreas, has been documented among immunocompromised persons.¹⁰

This array tests for IgG immune reactivity associated with *Cryptosporidium*. 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 *Cryptosporidium* antigens at optimal dilution, 11% of these donors were IgG reactive.

References:

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