

Microsporidia Stain by DFA

FOR DETECTION AND IDENTIFICATION OF ENTEROCYTOZOOM BIENEUSI AND ENCEPHALITOOZOOM SPP.

Test Highlights

- 100-fold higher analytical sensitivity than modified trichrome stain.
- IFA reagents are able to differentiate between *Enterocytozoon bieneusi* and *Encephalitozoon* spp.
- Can be performed on stool fixed in formalin, polyvinyl alcohol (PVA), or sodium acetate formalin (SAF).

Clinical Background

- Numerous species of microsporidia can cause disease in immunocompromised patients, particularly HIV-positive patients.
- In gastrointestinal infections, *Enterocytozoon bieneusi* and *Encephalitozoon* spp. are the most commonly identified microsporidial pathogens.
- Differentiation of *E. bieneusi* from *Encephalitozoon* spp. may be important, as these pathogens respond differently to antimicrobial agents.
- Extra-gastrointestinal infections may also occur from other microsporidial species, including keratitis, myositis, and disseminated disease.

Epidemiology

- Microsporidial infections occur worldwide and are thought to be transmitted through ingestion of environmental spores and possibly via aerosol spread and water contact.
- Incidence has decreased with widespread use of highly active anti-retroviral therapy for HIV-positive patients. However, microsporidia are emerging as pathogens in other immunocompromised hosts, such as organ transplant recipients.

Indications for Ordering

- For definitive identification of *E. bieneusi* and *Encephalitozoon* spp. from stool specimens in immunocompromised patients with diarrhea.
- To differentiate between *E. bieneusi* and *Encephalitozoon* spp. in patients with microsporidia for treatment purposes.

Interpretation

- Positive results for *E. bieneusi* and *Encephalitozoon* spp. suggest the causative agent of diarrhea in a symptomatic patient.

- Negative results do not exclude other microsporidia species (e.g., *Brahciola*, *Nosema*, and *Microsporidium* spp.), but these are not typically found to cause gastrointestinal disease in humans.

Limitations

- Negative results do not rule out gastrointestinal infection by *E. bieneusi* or *Encephalitozoon* spp. Repeat testing may be necessary to definitively exclude these pathogens.
- Lower numbers of microsporidia spores may be excreted by immunocompetent patients. Therefore, test sensitivity may be lower in this population.

Methodology

Direct fluorescent antibody stain.

Related Tests

[Microsporidia Stain by Modified Trichrome \(0060050\)](#)

References

1. Cisse OA, et al. Evaluation of an immunofluorescent-antibody test using monoclonal antibodies directed against *Enterocytozoon bieneusi* and *Encephalitozoon intestinalis* for diagnosis of intestinal microsporidiosis in Bamako (Mali). *J Clin Microbiol* 2002;40:1715–8.
2. Singh I, et al. Sensitivity and specificity of a monoclonal antibody-based fluorescence assay for detecting *Enterocytozoon bieneusi* spores in feces of simian immunodeficiency virus-infected macaques. *Clin Diagn Lab Immunol* 2005;12:1141–4.

Test Information

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Microsporidia DFA

For specific collection, transport, and testing information, refer to the ARUP website at www.aruplab.com.

For information on test selection, ordering, and interpretation, refer to ARUP Consult[®] at www.arupconsult.com.