Overview

Useful For
Diagnosis of extra-intestinal microsporidiosis involving the lung, skin, and other organs, particularly in immunocompromised hosts

Diagnosis of ocular microsporidiosis

Testing Algorithm
This test is intended to be ordered on specimens other than stool and urine.

See Parasitic Investigation of Stool Specimens Algorithm in Special Instructions.

Special Instructions
- Parasitic Investigation of Stool Specimens Algorithm

Method Name
Trichrome-Blue Stain (Ryan Modification)

NY State Available
Yes

Specimen

Specimen Type
Varies

Specimen Required
Submit only 1 of the following specimens:

Specimen Type: Duodenal aspirate (small intestinal aspirate, jejunal aspirate, small bowel aspirate)

Container/Tube: Sterile container

Specimen Volume: 0.5 mL

Additional Information: Ecofix and 10% formalin are acceptable preservatives.

Specimen Stability Information: Preserved Ambient (preferred) <10 days/Refrigerated <3 days/Frozen

Specimen Type: Respiratory secretions (bronchoalveolar lavage [BAL], sputum, bronchial wash, pleural fluid)

Container/Tube: Sterile container

Specimen Volume: 0.5 mL

Specimen Stability Information: Refrigerated <3 days (preferred)/Frozen <10 days

Specimen Type: Eye (vitreous fluid, corneal swab or scraping, ocular fluid)
**Test Definition: MTBS**
Microsporidia Stain

**Container/Tube:** Sterile container or swab

**Specimen Volume:** 0.5 mL

**Specimen Stability:** Refrigerated <3 days

**Specimen Type:** Fresh tissue (lung, eye, bladder, rectal, intestinal, colon, skin, muscle, kidney)

**Container/Tube:** Sterile container

**Specimen Volume:** 3-mm biopsy in 0.1-mL sterile saline

**Specimen Stability:** Refrigerated <3 days

**Specimen Type:** Gallbladder aspirate/Bile aspirate

**Container/Tube:** Sterile container

**Specimen Volume:** 0.5 mL

**Specimen Stability:** Refrigerated <3 days/Frozen <10 days

**Forms**
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

**Specimen Minimum Volume**
Duodenal aspirate, gallbladder aspirate, respiratory secretions, eye fluid: 0.5 mL

**Reject Due To**
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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**Clinical and Interpretive**

**Clinical Information**
Microsporidia are highly specialized fungi that cause a wide variety of clinical syndromes in humans. The most common microsporidia are *Enterocytozoon bieneusi* and *Encephalitozoon intestinalis*, which infect the gastrointestinal tract and cause a diarrheal illness, and *Encephalitozoon cuniculi* and *Encephalitozoon hellem*, which can infect the conjunctiva, respiratory tract, and genitourinary system. Human infections have been reported most frequently in patients with AIDS, but also can occur in other immunocompromised patients, including solid organ allograft recipients and, sporadically, immunocompetent hosts. Less commonly, other microsporidia such as *Vittaforma corneae* and *Brachiola* species can cause disseminated or organ-specific disease. Diagnosis of
Microsporidiosis is traditionally performed by light microscopic examination of stool, urine, and other specimens using a strong trichrome (chromotrope 2R) stain for detection of the characteristic spores. Unfortunately microscopic identification can be challenging due to the small size of the spores (1-4 micrometer) and their resemblance to yeast. Molecular detection using species-specific PCR offers improved sensitivity and specificity and is available for the microsporidia that cause the majority of intestinal and renal infections (ie, *Encephalitozoon* species and *Enterocytozoon bieneusi*). The microsporidia stain is reserved for use with other (nonstool and nonurine) specimen sources due to the variety of other species that may be detected outside of the intestinal tract and kidney.

The antihelmintic drug, albendazole has been found effective in some infections due to *Enterocytozoon bieneusi* and *Encephalitozoon* (*Septata*) *intestinalis*.

**Reference Values**

Negative

If positive, reported as Microsporidia detected

**Interpretation**

A positive result suggests an active or recent infection. Results should be correlated with the patient's clinical presentation and immune status.

A negative result indicates absence of detectable microsporidial spores in the specimen, but does not always rule out ongoing microsporidiosis since the organism may be present at very low levels or shed sporadically.

**Cautions**

These organisms are very difficult to identify among the multitude of organisms and artifactual debris present in feces.

**Clinical Reference**


**Performance**

**Method Description**


**PDF Report**

No

**Day(s) and Time(s) Test Performed**

Monday through Friday; 12 p.m.

**Analytic Time**

2 days
Maximum Laboratory Time
4 days

Specimen Retention Time
7 days

Performing Laboratory Location
Rochester

Fees and Codes

Fees
- Authorized users can sign in to Test Prices for detailed fee information.
- Clients without access to Test Prices can contact Customer Service 24 hours a day, seven days a week.
- Prospective clients should contact their Regional Manager. For assistance, contact Customer Service.

Test Classification

This test uses a standard method. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
87015-Concentration

87207-Stain

LOINC® Information

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<th>Order LOINC Value</th>
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<td>Microsporidia Stain</td>
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