18909 Calcofluor White Stain

A fluorescent stain for rapid detection of yeasts, fungi and parasitic organisms. Calcofluor White is a non-specific fluorochrome that binds to cellulose and chitin in cell walls.

**Composition:**
Calcofluor White M2R 1g/l  
Evans blue 0.5g/l

**Storage:**
Store at room temperature and protected from light.

**Directions:**
1. Put the sample to be examined onto a clean glass slide.  
2. Add one drop of Calcofluor White Stain and one drop of 10% Potassium Hydroxide  
3. Place a coverslip over the specimen and let stand for 1 minute.  
4. Examine the slide under UV light at x100 to x400 magnification.

**Principle/ Interpretation:**
Calcofluor White Stain is a non-specific fluorochrome that binds with cellulose and chitin contained in the cell walls of fungi and other organisms. The staining procedure with Calcofluor White Stain is a rapid method for the detection of many yeasts and pathogenic fungi like *Microsporidium, Acanthamoeba, Pneumocystis, Naegleria*, and *Balamuthia* species.

Evans blue present in the stain act as a counterstain and diminishes background fluorescence of tissues and cells when using blue light excitation (not UV). A range of of 300 to 440 nm (Emax 433nm; 0.1 M phosphate pH 7.0; cellulose) can be taken for emission wave length and the excitation occurs around 355nm.

Fungal or parasitic organisms appear fluorescent bright green to blue, while other material is reddish-orange fluorescent. Non-specific reactions may occur when tissues samples are used. May a yellowish-green background fluorescence is observed with such specimens but fungal and parasitic structures appears with much more intense. Attention cotton fibers will fluoresce strongly and must therefore be differentiated from fungal hyphae. As well amebic cysts are fluorescent but trophozites will not stain or fluoresce. Background fluorescence can be diminished by examining under blue light or by using different filter combinations (emission and excitation filters).

One drop of 10% potassium hydroxide solution can be added for better visualization of fungal elements.

**Quality Control:**

<table>
<thead>
<tr>
<th>Test Organisms (ATCC)</th>
<th>Result</th>
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<tbody>
<tr>
<td><em>Candida albicans</em> (10231)</td>
<td>Fluorescence</td>
</tr>
<tr>
<td><em>Escherichia coli</em> (25922)</td>
<td>No or weak fluorescence</td>
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References: