

## Technical Bulletin

## Calcofluor White Stain

Suitable for microbiology

Catalog Number 18909

## Product Description

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 using Calcofluor White Stain is a rapid method for the detection of many yeasts and pathogenic fungi such as *Microsporidium*, *Acanthamoeba*, *Pneumocystis*, *Naegleria*, and *Balamuthia* species.

Calcofluor White Stain is provided as an aqueous solution with the following composition:

Reagent	Concentration
Calcofluor White M2R	1 g/L
Evans Blue	0.5 g/L

Evans blue acts as a counterstain and diminishes the background fluorescence of tissues and cells when using blue light excitation (not UV). A range of 300 nm - 440 nm ( $\lambda_{Em\ max}$  433 nm; 0.1 M phosphate pH 7.0 with cellulose) is possible for emission wavelength ( $\lambda_{Em}$ ) with excitation ( $\lambda_{Ex}$ ) set at approximately 355 nm.

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

## Precautions and Disclaimer

For R&D Use Only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

## Storage/Stability

Store the Calcofluor White Stain at room temperature and protected from light.

## Procedure

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 solution (not included)
3. Place a coverslip over the specimen and let stand for 1 minute.
4. Examine the slide under UV light ( $\lambda_{Ex} = 355\text{ nm}$ ) at 100× to 400× magnification.

## Results

Fungal or parasitic organisms appear fluorescent bright green to blue, while other material is fluorescent reddish orange.

Non-specific reactions may occur when tissue samples are used. A yellowish-green background fluorescence may be observed with tissue specimens, but fungal and parasitic organisms will have a more intense fluorescence.

**Note:** Cotton fibers fluoresce strongly and must therefore be differentiated from fungal hyphae. In addition, amoebic cysts will fluoresce when treated with Calcofluor White Stain, but trophozoites will not stain or fluoresce.

Background fluorescence may be reduced by using blue light or by using different combinations of emission and excitation filters.

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## References

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