

**Slides for direct microscopic examination
0809: positive****CMPT QA:** 0809: KOH positive

The slides were validated by random lot sample.

Reference Laboratory: 0809: Calcofluor White positive

All laboratories (n=4) that reported results reported positive results using KOH. One laboratory did not submit a report.

KOH preparations A drop of 10% potassium hydroxide (KOH) should be mixed with a small quantity of the specimen to clear the sample for viewing. Some laboratories add 10% glycerol to the KOH. The mixture on a slide should be gently heated (but not boiled). For thick or viscous specimens it may be necessary to let the slides stand for up to 30 minutes to facilitate clearing. A slide warmer set at 51-54°C for 1 hour may also be used to heat the slides. The clearing time depends on the thickness of the sample, the concentration of the hydroxide used, and the amount of heat (if any) applied.**Calcofluor White** binds to β -1-3 and 1-4 polysaccharides, such as cellulose and chitin (present in fungal cell walls), which fluoresces when exposed to long-wave UV light. It is useful for direct microscopic examination of samples and for exhibiting certain morphologic structures of fungi grown in culture. While the fluorescent stain allows for rapid detection, this does need to be counter balanced against the cost, and intermittent difficulties of background fluorescence. Studies comparing Calcofluor White and KOH with a variety of sample materials have not demonstrated a significant difference in the sensitivity or specificity with either technique. Issues of personal preference and the availability of fluorescent microscopy appear to prevail.**REFERENCES**

1. Larone DH. 2002. p. 52. *Medically important fungi A Guide to Identification*. 4th ed. ASM Press, Washington, D.C.
2. Haldane DJ, Robart E. 1990. A comparison of calcofluor white, potassium hydroxide, and culture for the laboratory diagnosis of superficial fungal infection. *Diagn Microbiol Infect Dis*. 13 (4):337-9.
3. Hazen KC, Howell SA. 2007. p. 1762-1788. *Candida, Cryptococcus, and other yeasts of medical importance*. In PR Murray et al. (ed.) *Manual of Clinical Microbiology*. Ch. 119. 9th ed. ASM Press, Washington, DC.
4. Koneman EW, Roberts GD. 1985. p. 21. *Practical Laboratory Mycology*. 3rd ed. Williams and Wilkins. Baltimore, MD.

