



Basic Mycology Program October 2005

0509 Slide for direct microscopic examination: **positive**

CMPT QA: 0509: KOH positive. The slides were validated by random lot sampling.

Reference Laboratory: 0509: Calcofluor White positive

Results received are shown in Table 1.

Table 1. Results received and methods reported for 0509 (positive)	
Report	KOH
positive	2
negative	3
no report	1
Not routinely processed	1
Grand Total	7

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

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