

## Cryptococcus Control Slides – Technical Memo

|                        |                   |                   |
|------------------------|-------------------|-------------------|
| <b>CONTROL SLIDES:</b> | <b>Part 4135A</b> | <b>Part 4135B</b> |
|                        | 10 Slide/Set      | 98 Slide/Set      |

### PRODUCT SPECIFICATIONS:

**Tissue:** Positive staining lung.

**Fixation:** Formalin 10%, Phosphate Buffered (Part 1090).

**Section/Glass:** Paraffin sections cut at 4 microns on Superfrost™ Plus slides.

**Quality Control Stain:** Mayer Mucicarmine quality control stained slide(s) included.

**Reactivity:** Guaranteed product specific reactivity for one year from date of receipt. Revalidate after one year to verify continued reactivity.

**Storage:** 15-30°C in a light deprived and humidity controlled environment.

**Intended Use:** To verify histological techniques and reagent reactivity.

**Before using unstained control slides, review the enclosed stained slide(s) to ensure that this tissue source is acceptable for testing needs.**

### CONTROL SLIDE VALIDATION:

| With Mucin, Mayer Mucicarmine Stain Kit:   | Part 9151A/B | Individual Stain Solution |
|--------------------------------------------|--------------|---------------------------|
| Solution A: Ferric Chloride, Aqueous       | 125/250 ml   | Part 1409                 |
| Solution B: Hematoxylin 1%, Alcoholic      | 125/250 ml   | Part 1409                 |
| Solution C: Mucicarmine Stock Stain, Mayer | 125/125 ml   | Part 1250                 |
| Solution D: Metanil Yellow Stain, Aqueous  | 250/500 ml   | Part 12235                |

### APPLICATION:

Newcomer Supply *Cryptococcus* Control Slides are for the positive histochemical staining of fungal organisms. The morphology of the organism is consistent with *Cryptococcus* sp.

### NEWCOMER SUPPLY VALIDATION PROCEDURE:

- Heat dry sections in oven according to your laboratory protocol.
- Deparaffinize sections thoroughly in three changes of xylene, 3 minutes each. Hydrate through two changes each of 100% and 95% ethyl alcohols, 10 dips each. Wash well with distilled water.
  - See Procedure Notes #1 and #2.
- Prepare fresh Weigert Iron Hematoxylin Working Solution directly before use; combine and mix well:
  - Solution A: Ferric Chloride, Aqueous 20 ml
  - Solution B: Hematoxylin 1%, Alcoholic 20 ml
- Stain in Weigert Iron Hematoxylin Working Solution for 7 minutes.
- Rinse in running tap water for 10 minutes.
- Prepare fresh Mayer Mucicarmine Working Solution; combine and mix well:
  - Solution C: Mucicarmine Stock Stain, Mayer 10 ml
  - Tap Water (do not use distilled water) 30 ml
- Stain slides in fresh Mayer Mucicarmine Working Solution for 60 minutes or longer if a more intense stain is desired.
 

**Microwave Modification:** See Procedure Note #3.

  - Place slides in a plastic Coplin jar (5184) containing fresh Mayer Mucicarmine Working Solution. Microwave for 10 minutes at 70°C.
- Rinse in several changes of tap water.
- Counterstain in Solution D: Metanil Yellow Stain, Aqueous for 30 seconds to 1 minute.
- Dehydrate quickly through 95% and 100% ethyl alcohols. Clear in three changes of xylene, 10 dips each; coverslip with compatible mounting medium.

### RESULTS:

|                                |                  |
|--------------------------------|------------------|
| Capsule of <i>Cryptococcus</i> | Deep rose to red |
| Nuclei                         | Black            |
| Other tissue elements          | Yellow           |

### PROCEDURE NOTES:

- Drain staining slides after each step to prevent solution carry over.
- Do not allow sections to dry out at any point during procedure.
- The microwave procedure was tested using a laboratory-grade microwave oven. This procedure is a guideline and techniques should be developed for use in your laboratory.
- If using a xylene substitute, follow manufacturer's recommendation for deparaffinization and clearing steps.

### REFERENCES:

- Carson, Freida L. and Christa Cappellano. *Histotechnology: A Self-Instructional Text*. 5th ed. Chicago: ASCP Press, 2020. 149-151.
- Luna, Lee G. *Manual of Histologic Staining Methods of the Armed Forces Institute of Pathology*. 3rd ed. New York: Blakiston Division, McGraw-Hill, 1968. 161-162.
- Sheehan, Dezna C. and Barbara B. Hrapchak. *Theory and Practice of Histotechnology*. 2nd ed. St. Louis: Mosby, 1980. 168-169.
- Modifications developed by Newcomer Supply Laboratory.

