

## Fite, *Nocardia sp.*, Artificial Control Slides – Technical Memo

<b>CONTROL SLIDES:</b>	<b>Part 4215A</b>	<b>Part 4215B</b>
	10 Slide/Set	98 Slide/Set

### PRODUCT SPECIFICATIONS:

**Tissue:** Positive staining rat lung and negative staining human lung.

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

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

**Quality Control Stain:** AFB, Fite 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:

<b>With AFB, Fite Stain Kit:</b>	<b>Part 91013A</b>	<b>Individual Stain Solution</b>
Solution A: Xylene/Peanut Oil, 2:1	500 ml	Part 1449
Solution B: Carbol Fuchsin Stain, Ziehl-Neelsen	250 ml	Part 1030
Solution C: Acid Alcohol 1%	250 ml	Part 10011
Solution D: Light Green SF Yellowish 0.1%, Aqueous	250 ml	Part 12203

### APPLICATION:

Newcomer Supply Fite, *Nocardia sp.*, Artificial Control Slides are for the positive histochemical staining of *Nocardia sp.* and acid fast bacilli in tissue sections. *Nocardia sp.*, purchased from American Type Culture Collection, is used to produce the positive control tissue.

### PRESTAINING PREPARATION:

1. Heat dry sections in oven according to your laboratory protocol.
2. Filter Solution B: Carbol Fuchsin Stain, Ziehl-Neelsen with high quality filter paper.
3. Prepare Diluted Acid Alcohol Solution:
  - a. Solution C: Acid Alcohol 1% 20 ml
  - b. Distilled Water 20 ml

### NEWCOMER SUPPLY VALIDATION PROCEDURE:

4. Deparaffinize slides in Solution A: Xylene/Peanut Oil, 2:1, two changes for 12 minutes each.
  - a. See Procedure Note #1.
5. Drain slides, wipe off excess oil, and blot to opacity taking care to remove residual oil.
  - a. See Procedure Note #2.
6. Stain in freshly filtered Solution B: Carbol Fuchsin Stain, Ziehl-Neelsen for 15 minutes at room temperature.
7. Rinse well in distilled water.
8. Differentiate slides individually in Diluted Acid Alcohol Solution (Step #3) until background is pale pink; 10-20 dips.
9. Quickly rinse in distilled water and check microscopically for correct differentiation.
10. Rinse well in distilled water.
11. Counterstain in Solution D: Light Green SF Yellowish 0.1%, Aqueous; 5-10 dips.
12. Rinse in distilled water.
13. Blot excess water from slide and air-dry or oven-dry completely.
14. Dip dried slides in xylene and coverslip with a compatible mounting medium.

### RESULTS:

<i>Nocardia sp.</i>	Red
Acid-fast bacilli	Red
Other tissue elements	Green
Negative lung	Negative for <i>Nocardia sp.</i>

### PROCEDURE NOTES:

1. Acid-fastness of the organisms is enhanced when the waxy capsule is protected by the mixture of xylene/peanut oil and the avoidance of dehydrating solutions.
2. It is important to blot well, residual oil may produce staining artifact.
3. A small percentage of *Nocardia sp.* organisms may resist taking the red stain and remain green due to the growth phase of the individual organism.
4. If using a xylene substitute, closely follow the manufacturer's recommendations for coverslipping step.

### REFERENCES:

1. Carson, Freida L., and Christa Hladik Cappellano. *Histotechnology: A Self-instructional Text*. 4th ed. Chicago: ASCP Press, 2015. 220-221.
2. Fite, George, P.J. Cambre and M.H. Turner. "Procedure for Demonstrating Lepra Bacilli in Paraffin Sections". *Archives of Pathology* 43 (1947). 624-625.
3. Sheehan, Dezna C., and Barbara B. Hrapchak. *Theory and Practice of Histotechnology*. 2nd ed. St. Louis: Mosby, 1980. 237.
4. Modifications developed by Newcomer Supply Laboratory.