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Part 4011
Revised February 2024

Acid Fast Bacteria (AFB), Animal Control Slides – Technical Memo

CONTROL SLIDES:

	Part 4011A	**Part 4011B**
	10 Slide/Set	98 Slide/Set

PRODUCT SPECIFICATIONS:
Tissue: Positive staining animal organ.
Fixation: Formalin 10%, Phosphate Buffered (Part 1090).
Section/Glass: Paraffin sections cut at 4 microns on Superfrost™ Plus slides.
Quality Control Stain: AFB, Ziehl-Neelsen 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 AFB, Ziehl-Neelsen Stain Kit:	**Part 9101A**	**Individual Stain Solution**
Solution A: Carbol Fuchsin Stain, Ziehl-Neelsen	250 ml	Part 1030
Solution B: Acid Alcohol 1%	250 ml	Part 10011
Solution C: Light Green SF Yellowish Stain 0.1%, Aqueous	250 ml	Part 12203

APPLICATION:

Newcomer Supply Acid Fast Bacteria (AFB), Animal Control Slides are for the positive histochemical staining of acid-fast mycobacteria in tissue sections.

PRESTAINING PREPARATION:

1. Heat dry sections in oven according to your laboratory protocol.
2. Filter Solution A: Carbol Fuchsin Stain, Ziehl-Neelsen with filter paper whenever a thick sheen develops on solution surface.

NEWCOMER SUPPLY VALIDATION PROCEDURE:

3. 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.
    a. *See Procedure Notes #1 and #2.*
4. Stain in Solution A: Carbol Fuchsin Stain, Ziehl-Neelsen for 15 minutes at room temperature. Keep solution covered.
    a. *See Procedure Note #3.*
5. Rinse in running tap water for 2 to 3 minutes.
6. Differentiate in Solution B: Acid Alcohol 1% until color no longer runs off the slide and sections are pale pink; 3 to 10 rapid dips.
7. Wash in running tap water 3 to 5 minutes; rinse in distilled water.
8. Counterstain in Solution C: Light Green SF Yellowish Stain 0.1%, Aqueous; 2-5 dips.
9. Rinse with one quick dip in distilled water or proceed directly to Step #10 without a distilled water rinse.
10. Dehydrate in two changes each of 95% and 100% ethyl alcohol. Clear in three changes of xylene, 10 dips each; coverslip with compatible mounting medium.

RESULTS:

Acid-fast bacilli	Bright red
Background	Green

PROCEDURE NOTES:

1. Drain slides after each step to prevent solution carry over.
2. Do not allow sections to dry out at any point during procedure.
3. Sections can remain in Carbol Fuchsin Stain, Ziehl-Neelsen for up to 60 minutes without adverse effect. Additional differentiation may be required in Step #6.
4. If using a xylene substitute, follow manufacturer's recommendation for deparaffinization and clearing steps.

REFERENCES:

1. Carson, Freida L., and Christa Cappellano. *Histotechnology: A Self-instructional Text*. 5th ed. Chicago: ASCP Press, 2020. 213-215.
2. Sheehan, Dezna C., and Barbara B. Hrapchak. *Theory and Practice of Histotechnology*. 2nd ed. St. Louis: Mosby, 1980. 237.
3. Modifications developed by Newcomer Supply Laboratory.