2505 Parview Road ● Middleton, WI 53562-2579 ● 800-383-7799 ● www.newcomersupply.com ● info@newcomersupply.com

Part 4127
Revised January 2020

Colloidal Iron Control Slides – Technical Memo

CONTROL SLIDES:

Part 4127A	**Part 4127B**
10 Slide/Set	98 Slide/Set

PRODUCT SPECIFICATIONS:
Tissue: Positive staining small intestine.
Fixation: Formalin 10%, Phosphate Buffered (Part 1090).
Section/Glass: Paraffin sections cut at 4 microns on Superfrost™ Plus slides.
Quality Control Stain: Müller-Mowry Colloidal Iron 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 Colloidal Iron, Müller-Mowry Stain Kit:	**Part 9110A**	**Individual Stain Solution**
Solution A: Acetic Acid 12%, Aqueous	1000 ml	
Solution B: Colloidal Iron Stock	125 ml	Part 10365
Solution C: Acetic Acid, Glacial, ACS	50 ml	Part 10010
Solution D: Potassium Ferrocyanide 2%, Aqueous	125 ml	
Solution E: Hydrochloric Acid 2%, Aqueous	125 ml	
Solution F: Van Gieson Stain	250 ml	Part 1404

APPLICATION:

Newcomer Supply Colloidal Iron Control Slides are for the positive histochemical staining of acid epithelial mucins (sialomucin, sulfomucin) and stromal (mesenchymal) mucin in tissue sections.

PRESTAINING PREPARATION:

1. Heat dry sections in oven according to your laboratory protocol.
2. Acid clean glassware prior to use to avoid residual iron staining.
   a. *See Procedure Note #1.*
3. Prepare Colloidal Iron Working Solution; combine and mix well.
   a. *Solution B: Colloidal Iron Stock* *20 ml*
   b. *Solution C: Acetic Acid, Glacial ACS* *5 ml*
   c. *Distilled Water* *15 ml*

NEWCOMER SUPPLY VALIDATION PROCEDURE:

4. 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 #2 and #3.*
5. Place in Solution A: Acetic Acid 12%, Aqueous for 30 seconds.
6. Drain Slides. Do not rinse.
7. Place in Colloidal Iron Working Solution (Step #3) for 30 minutes.
8. Rinse in three changes of Solution A: Acetic Acid 12%, Aqueous; 3 minutes each.
9. Prepare fresh Ferrocyanide-Hydrochloric Acid Solution directly before use; combine and mix well.
   a. *Solution D: Potassium Ferrocyanide 2%, Aqueous* *20 ml*
   b. *Solution E: Hydrochloric Acid 2%, Aqueous* *20 ml*
10. Place in Ferrocyanide-Hydrochloric Acid Solution for 15 minutes.
11. Wash in running tap water for 1-5 minutes.
12. Counterstain in Solution F: Van Gieson Stain for 3-5 minutes.
    a. *Proceed directly to dehydration step without rinsing.*
13. Dehydrate in two changes of 100% ethyl alcohol. Clear in three changes of xylene, 10 dips each; coverslip with compatible mounting medium.

RESULTS:

Acid epithelial mucins	Blue
Stromal mucin	Blue
Collagen	Red
Muscle and cytoplasm	Yellow

PROCEDURE NOTES:

1. Acid clean all glassware/plasticware (Part 12086) and rinse thoroughly in several changes of distilled water.
2. Drain slides after each step to prevent solution carry over.
3. Do not allow sections to dry out at any point during procedure.
4. Nuclear Fast Red Stain, Kernechtrot (1255) can be used as an alternative counterstain.
5. If using a xylene substitute, closely follow the manufacturer's recommendations for deparaffinization and clearing steps.

REFERENCES:

1. Bancroft, John D., and Marilyn Gamble. *Theory and Practice of Histological Techniques*. 6th ed. Oxford: Churchill Livingstone Elsevier, 2008. 175-176.
2. Carson, Freida L., and Christa Hladik Cappellano. *Histotechnology: A Self-instructional Text*. 4th ed. Chicago: ASCP Press, 2015. 151-153.
3. Rekhtman, Natasha, and Justin Bishop. *Quick Reference Handbook for Surgical Pathologists*. Berlin: Springer, 2011. 69.
4. Modifications developed by Newcomer Supply Laboratory.