

## Colloidal Iron, Multi-Tissue Control Slides – Technical Memo

<b>CONTROL SLIDES:</b>	<b>Part 4128A</b>	<b>Part 4128B</b>
	10 Slide/Set	98 Slide/Set

### PRODUCT SPECIFICATIONS:

**Tissue:** Positive staining small intestine and positive iron staining animal spleen.

**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, Multi-Tissue Control Slides, use a combination of tissue sources for the positive histochemical staining of acid epithelial mucins (sialomucin, sulfomucin) and stromal (mesenchymal) mucin in small intestine and ferric iron in spleen.

### PRESTAINING PREPARATION:

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

### NEWCOMER SUPPLY VALIDATION PROCEDURE:

- 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 #2 and #3.
- Place in Solution A: Acetic Acid 12%, Aqueous for 30 seconds.
- Drain Slides. Do not rinse.
- Place in Colloidal Iron Working Solution (Step #2) for 30 minutes.
- Rinse in three changes of Solution A: Acetic Acid 12%, Aqueous; 3 minutes each.
- Prepare fresh Ferrocyanide-Hydrochloric Acid Solution directly before use; combine and mix well.
  - Solution D: Potassium Ferrocyanide 2%, Aqueous 20 ml
  - Solution E: Hydrochloric Acid 2%, Aqueous 20 ml
- Place in Ferrocyanide-Hydrochloric Acid Solution for 15 minutes.
- Wash in running tap water for 1-5 minutes.
- Counterstain in Solution F: Van Gieson Stain for 3-5 minutes.
  - Proceed directly to dehydration step without rinsing.
- 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
Ferric iron deposits	Bright blue
Collagen	Red
Muscle and cytoplasm	Yellow

### PROCEDURE NOTES:

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

### REFERENCES:

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

