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Part 4127
Revised October 2017

Colloidal Iron Control Slides – Technical Memo

CONTROL SLIDES:

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

Colloidal Iron Control Slides contain a section of positive staining small intestine.

PRODUCT DESCRIPTION:

The enclosed positive control slides are intended to be used to verify histological techniques and reagent reactivity. These slides are to be used for the qualitative purpose of determining positive or negative results, and are not intended to be used for any quantitative purpose. The first serial section within the control box is stained and provided for your reference. ***Before using the unstained slides, review the enclosed stained slide with your pathologist to ensure that this tissue source is acceptable. Newcomer Supply will not accept a return with missing slides in the series. Newcomer Supply guarantees reactivity of these control slides for one year from the date of receipt. Revalidate after one year to verify continued reactivity. Store at 15-30°C in a light deprived and humidity controlled environment.***

These positive control slides were produced from human surgical or autopsy tissues under carefully controlled conditions. Reasonable measures are used to deliver quality control slides that are as consistent as possible. However, characteristics of quality control slides may be dissimilar due to variations in the reagents, stains, techniques, laboratory conditions, and tissue sources used. Newcomer Supply Laboratory uses a manual method of performing quality control procedures, specifically avoiding automation, in order to provide reactive control slides for even less aggressive methods of staining that our customers may be using.

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

For storage requirements and expiration date refer to individual product labels.

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.

METHOD:

Fixation: Formalin 10%, Phosphate Buffered (Part 1090)
Technique: Paraffin sections cut at 5 microns on Superfrost® Plus
Solutions: All solutions are manufactured by Newcomer Supply, Inc.

PRESTAINING PREPARATION:

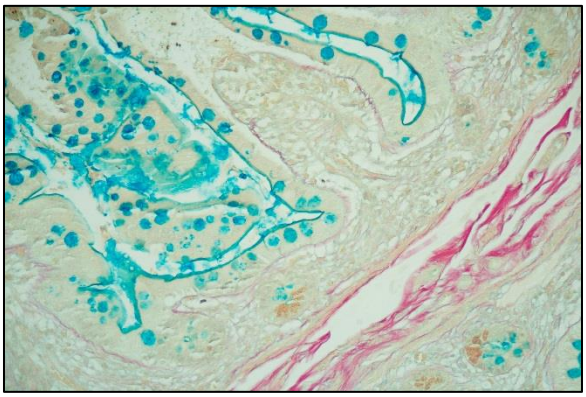
1. To avoid the possibility of residual background iron staining, acid clean glassware is recommended in the staining procedure.
   a. *See Procedure Note #1.*
2. Prepare Colloidal Iron Working Solution; combine and mix well.
   a. *Solution B: Colloidal Iron Stock* *20 ml*
   b. *Solution C: Acetic Acid, Glacial ACS* *5 ml*
   c. *Distilled Water* *15 ml*

NEWCOMER SUPPLY VALIDATION PROCEDURE:

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 #2 and #3.*
4. Place in Solution A: Acetic Acid 12%, Aqueous for 30 seconds.
5. Drain Slides. Do not rinse.
6. Place in Colloidal Iron Working Solution (Step #2) for 30 minutes.
7. Rinse in three changes of Solution A: Acetic Acid 12%, Aqueous; 3 minutes each.
8. 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*
9. Place in fresh Ferrocyanide-Hydrochloric Acid Solution for 15 minutes.
10. Wash in running tap water for 1-5 minutes.
11. Counterstain in Solution F: Van Gieson Stain for 3-5 minutes.
    a. *Proceed directly to dehydration step without rinsing.*
12. 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. Cleaning glassware with bleach is not equivalent to acid washing.
2. Drain staining rack/slides after each step to prevent solution carry over.
3. Do not allow sections to dry out at any point during staining 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.