

Colloidal Iron, Multi-Tissue Control Slides – Technical Memo

CONTROL SLIDES: **Part 4128AMT** **Part 4128BMT**
10 Slide/Set 98 Slide/Set

Colloidal Iron, Multi-Tissue Control Slides contain sections of positive staining small intestine and positive iron staining animal spleen.

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 and animal 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	75 ml	Part 10365
Solution C: Acetic Acid 40%, Aqueous	200 ml	
Solution D: Potassium Ferrocyanide 2%, Aqueous	150 ml	
Solution E: Hydrochloric Acid 2%, Aqueous	250 ml	
Solution F: Nuclear Fast Red Stain, Kernechtrot	250 ml	Part 1255

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

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.

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.

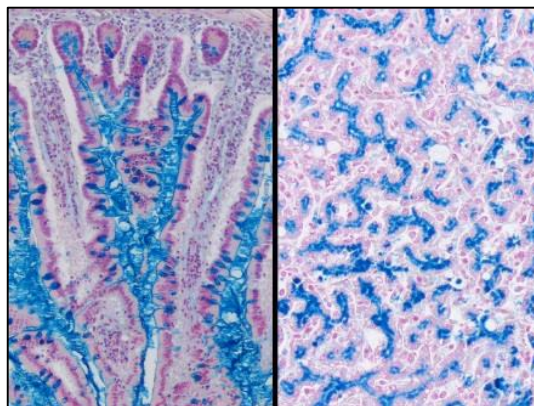
NEWCOMER SUPPLY VALIDATION PROCEDURE:

1. To avoid the possibility of residual background iron staining, acid clean glassware is recommended in the staining procedure.
 - a. See Procedure Note #1 (page 2).
2. 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 (page 2).
3. Prepare Colloidal Iron Working Solution; combine and mix well.
 - a. Solution B: Colloidal Iron Stock 10 ml
 - b. Solution C: Acetic Acid 40%, Aqueous 12 ml
 - c. Distilled Water 18 ml
4. Place slides in Solution A: Acetic Acid 12%, Aqueous for 30 seconds. Drain Slides. Do not rinse.
5. Place slides in Colloidal Iron Working Solution for 1 hour.
6. Rinse in three changes of Solution A: Acetic Acid 12%, Aqueous, 3 minutes each.
7. Prepare fresh Ferrocyanide-Hydrochloric Acid Solution directly before use; combine and mix well:
 - a. Solution D: Potassium Ferrocyanide 2%, Aqueous 15 ml
 - b. Solution E: Hydrochloric Acid 2%, Aqueous 30 ml
8. Place slides in fresh Ferrocyanide-Hydrochloric Acid Solution for 20 minutes at room temperature.

9. Wash in running tap water for 5 minutes.
10. Counterstain in Solution F: Nuclear Fast Red Stain, Kernechtrot for 5 minutes.
 - a. Shake solution well before use; do not filter.
11. Rinse well in running tap water for 1 – 5 minutes.
 - a. See Procedure Note #4 (page 2).
12. Dehydrate quickly 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 epithelial mucins	Blue
Stromal mucin	Blue
Ferric iron deposits	Bright blue
Nuclei	Pink-red
Cytoplasm	Pale pink



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. Wash well after Nuclear Fast Red Stain, Kernechtrot to avoid cloudiness in dehydration steps.
5. If using a xylene substitute, closely follow the manufacturer's recommendations for deparaffinization and clearing steps.

REFERENCES:

1. Carson, Freida L., and Christa Hladik. *Histotechnology: A Self-Instructional Text*. 3rd ed. Chicago, Ill.: American Society of Clinical Pathologists, 2009. 149-152.
2. Rekhtman, Natasha, and Justin Bishop. *Quick Reference Handbook for Surgical Pathologists*. Berlin: Springer, 2011. 69.
3. Sheehan, Dezna C., and Barbara B. Hrapchak. *Theory and Practice of Histotechnology*. 2nd ed. St. Louis: Mosby, 1980. 171-172.
4. Modifications developed by Newcomer Supply Laboratory.