

Iron Control Slides – Technical Memo

CONTROL SLIDES:	Part 4320A	Part 4320B
	10 Slide/Set	98 Slide/Set

Iron Control Slides contain a section of positive staining organ.

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 Iron, Gomori Prussian Blue Stain Kit:	Part 9136A/B	Individual Stain Solution
Solution A: Hydrochloric Acid 20%, Aqueous	125/250 ml	Part 12087
Solution B: Potassium Ferrocyanide 10%, Aqueous	125/250 ml	Part 13392
Solution C: Nuclear Fast Red Stain, Kernechtrot	250/500 ml	Part 1255

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

APPLICATION:

Newcomer Supply Iron Control Slides are for the positive histochemical staining of ferric iron deposits 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.

NEWCOMER SUPPLY VALIDATION PROCEDURE:

- To avoid the possibility of residual background iron staining, acid clean glassware is recommended in the staining procedure.
 - See Procedure Note #1.
- 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.
- Prepare **fresh** Ferrocyanide Working Solution directly before use; combine and mix well.
 - Solution A: Hydrochloric Acid 20%, Aqueous 20 ml
 - Solution B: Potassium Ferrocyanide 10%, Aqueous 20 ml
- Place slides in **fresh** Ferrocyanide Working Solution for 20 minutes.
- Rinse in three changes of tap water; rinse in distilled water.
- Place slides in Solution C: Nuclear Fast Red Stain, Kernechtrot for 5 minutes.
 - Shake solution well before use; do not filter.
- Rinse well in distilled water.
 - See Procedure Note #4.
- 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:

Ferric iron deposits	Bright blue
Nuclei	Red
Cytoplasm	Pink

PROCEDURE NOTES:

- Acid clean all glassware/plasticware (12086) and rinse thoroughly in several changes of distilled water. Cleaning glassware with bleach is not equivalent to acid washing.
- Drain staining rack/slides after each step to prevent solution carry over.
- Do not allow sections to dry out at any point during staining procedure.
- Wash well after Nuclear Fast Red Stain, Kernechtrot to avoid cloudiness in dehydration steps.
- If using a xylene substitute, closely follow the manufacturer's recommendations for deparaffinization and clearing steps

REFERENCES:

- Luna, Lee G. *Manual of Histologic Staining Methods of the Armed Forces Institute of Pathology*. 3rd ed. New York: Blakiston Division, McGraw-Hill, 1968. 179-184.
- Sheehan, Dezna C., and Barbara B. Hrapchak. *Theory and Practice of Histotechnology*. 2nd ed. St. Louis: Mosby, 1980. 217-218.
- Modifications developed by Newcomer Supply Laboratory.

