

Copper, Animal Control Slides – Technical Memo

<u>CONTROL SLIDES:</u>	Part 4130A	Part 4130B
	10 Slide/Set	98 Slide/Set

Copper, Animal Control Slides contain a section of positive staining liver.

PRODUCT DESCRIPTION:

The enclosed positive control slides are intended to be used to verify histological techniques and reagent reactivity. They 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 this 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.**

The positive control sections were produced from 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 Copper, Rhodanine Stain Kit:

Solution A: Rhodanine Stock Stain 0.2%, Alcoholic
Solution B: Hematoxylin Stain, Mayer Modified
Solution C: Sodium Borate 0.5%, Aqueous

Part 9113A
50 ml
250 ml
500 ml

Individual Stain Solution
Part 10531
Part 1202
Part 13824

APPLICATION:

Newcomer Supply Copper, Animal Control Slides are for the positive histochemical detection of copper in tissue sections.

9. Rinse well in distilled water.
10. 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.

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.

RESULTS:

Copper	Copper/reddish brown
Nuclei	Light blue

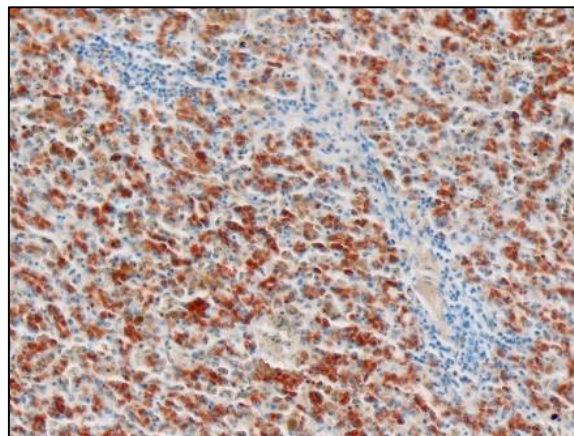
NEWCOMER SUPPLY VALIDATION PROCEDURE:

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.
 - a. See Procedure Notes #1 and #2 (page 2).
2. Prepare Working Rhodanine Solution and mix well.
 - a. Shake Solution A well before use.
 - b. Solution A: Rhodanine Stock Stain 0.2%, Alcoholic 3 ml
 - c. Distilled Water 47 ml
3. Stain slides in Working Rhodanine Solution at 37°C for 18 hours.

Microwave Modification: See Procedure Note #3 (page 2).

 - a. Place slides in a plastic Coplin jar containing Working Rhodanine Solution and microwave for 6 minutes at 70°C.

At the end of incubation (for both 37°C and microwave), to avoid unwanted slide precipitate, pour off warm Working Rhodanine Solution into a second Coplin jar; reserve and set aside.
4. Rinse slides well in several changes of distilled water. Check microscopically to determine adequate copper/reddish brown development in positive control slide.
 - a. Return slides to reserved Working Rhodanine Solution if additional incubation is required.
5. Prepare dilute Mayer Hematoxylin Stain Solution and mix well:
 - a. Solution B: Hematoxylin Stain, Mayer Modified 20 ml
 - b. Distilled Water 20 ml
6. Stain in dilute Mayer Hematoxylin Stain Solution for 10 minutes.
 - a. See Procedure Note #4 (page 2).
7. Rinse in distilled water.
8. Rinse in Solution C: Sodium Borate 0.5%, Aqueous; 2-3 quick dips.



PROCEDURE NOTES:

1. Drain staining rack/slides after each step to prevent solution carry over.
2. Do not allow sections to dry out at any point during staining procedure.
3. The suggested microwave procedure has been tested at Newcomer Supply using an "EB Sciences", 850 watt microwave oven with temperature probe and agitation tubes. This procedure is reproducible in our laboratory. It is nonetheless a guideline and techniques should be developed for your laboratory which meet the requirements of your situation. Microwave devices should be placed in a fume hood or vented into a fume hood, according to manufacturer's instructions, to prevent exposure to chemical vapors.
4. Copper may be masked if over-stained with hematoxylin.
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. 271-273.
2. Sheehan, Dezna C., and Barbara B. Hrapchak. *Theory and Practice of Histotechnology*. 2nd ed. St. Louis: Mosby, 1980. 230.
3. Modifications developed by Newcomer Supply Laboratory.