

Copper, Animal Control Slides – Technical Memo

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

PRODUCT SPECIFICATIONS:

Tissue: Positive staining animal liver.

Fixation: Formalin 10%, Phosphate Buffered (Part 1090).

Section/Glass: Paraffin sections cut at 4 microns on Superfrost™ Plus slides.

Quality Control Stain: Rhodanine 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 Copper, Rhodanine Stain Kit:	Part 9113A	Individual Stain Solution
Solution A: Rhodanine Stock Stain 0.2%, Alcoholic	50 ml	Part 10531
Solution B: Hematoxylin Stain, Mayer Modified	250 ml	Part 1202
Solution C: Sodium Borate 0.5%, Aqueous	500 ml	Part 13824

APPLICATION:

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

PRESTAINING PREPARATION:

- Heat dry sections in oven according to your laboratory protocol.
- Prepare Working Rhodanine Solution; combine and mix well.
 - Shake Solution A: Rhodanine Stock Stain 0.2%, Alcoholic well before each use.
 - Solution A: Rhodanine Stock Stain 0.2%, Alcoholic 3 ml
 - Distilled Water 47 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 #1 and #2.
- Stain in Working Rhodanine Solution (Step #2) at 60°C for 1-2 hours or at 37°C for 18 hours.

Microwave Modification: See Procedure Note #3.

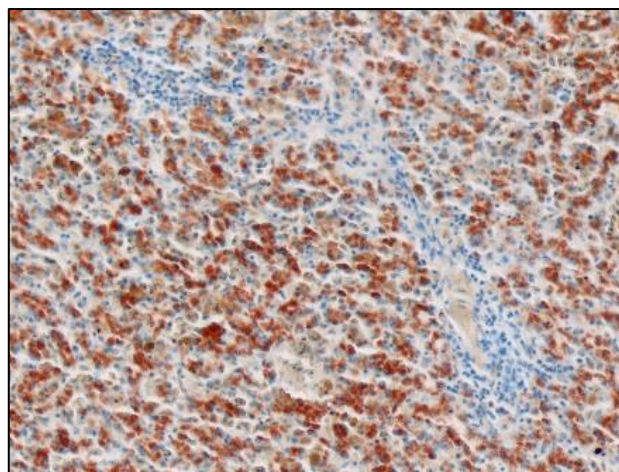
 - Place slides in a plastic Coplin jar containing Working Rhodanine Solution and microwave for 6 minutes at 70°C.
- At the end of incubation (for both oven and microwave), to avoid unwanted slide precipitate, pour off warm Working Rhodanine Solution into a second Coplin jar; reserve and set aside.
- Rinse slides well in several changes of distilled water.
- Check positive control slide microscopically to determine adequate copper/reddish brown development.
 - Return slides to reserved Working Rhodanine Solution if additional incubation is required.
- Prepare dilute Mayer Hematoxylin Stain Solution directly before use; combine and mix well:
 - Solution B: Hematoxylin Stain, Mayer Modified 20 ml
 - Distilled Water 20 ml
- Stain in dilute Mayer Hematoxylin Stain Solution for 10 minutes.
- Rinse in distilled water.
- Rinse in Solution C: Sodium Borate 0.5%, Aqueous; 2-3 quick dips.
- Rinse well in distilled water.
- 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.

PROCEDURE NOTES:

- Drain slides after each step to prevent solution carry over.
- Do not allow sections to dry out at any point during procedure.
- The suggested microwave procedure has been tested at Newcomer Supply. This procedure is a guideline and techniques should be developed for use in your laboratory.
- 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. 251.
- Carson, Freida L., and Christa Hladik Cappellano. *Histotechnology: A Self-instructional Text*. 4th ed. Chicago: ASCP Press, 2015. 258-260.
- Sheehan, Dezna C., and Barbara B. Hrapchak. *Theory and Practice of Histotechnology*. 2nd ed. St. Louis: Mosby, 1980. 230.
- Modifications developed by Newcomer Supply.



RESULTS:

Copper	Copper/reddish brown
Nuclei	Light blue