

Elastic, Aorta Control Slides – Technical Memo

CONTROL SLIDES:	Part 4194A	Part 4194B
	10 Slide/Set	98 Slide/Set

Elastic, Aorta Control Slides contain a section of positive staining aorta.

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 Elastic, Verhoeff Stain Kit:

	Part 9116A/B	Individual Stain Solution
Solution A: Hematoxylin 5%, Alcoholic	125/250 ml	Part 11623
Solution B: Ferric Chloride 10%, Aqueous	125/250 ml	Part 10856
Solution C: Iodine, Weigert & Lugol, Aqueous	75/150 ml	Part 12092
Solution D: Sodium Thiosulfate 5%, Aqueous	250/500 ml	Part 1389
Solution E: Van Gieson Stain	250/500 ml	Part 1404

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

APPLICATION:

Newcomer Supply Elastic, Aorta Control Slides are for the positive histochemical staining of elastic fibers in artery.

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.

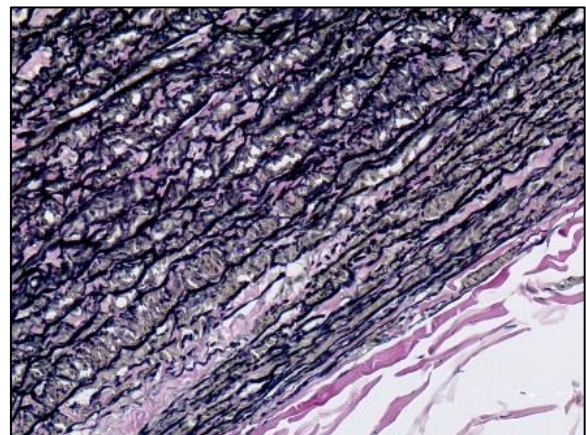
NEWCOMER SUPPLY VALIDATION PROCEDURE:

- 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 (page 2).
- Prepare **fresh** Verhoeff Working Solution by combining in the order listed, mixing well after each addition. This is essential for optimal staining.
 - Solution A: Hematoxylin 5%, Alcoholic 20 ml
 - Solution B: Ferric Chloride 10%, Aqueous 8 ml
 - Solution C: Iodine, Weigert & Lugol, Aqueous 8 ml
- Stain in **fresh** Verhoeff Working Solution for 1 hour.
 - Discard solution after successful differentiation in Step #6.
- Rinse in several changes of tap water.
- Prepare **fresh** Ferric Chloride 2%, Aqueous Solution:
 - Solution B: Ferric Chloride 10%, Aqueous 10 ml
 - Distilled water 40 ml
- Differentiate **each slide individually** in **fresh** Ferric Chloride 2%, Aqueous Solution with agitation; approximately 30 dips.
- Check differentiation; rinse well in tap water and check microscopically for black elastic staining with gray background. Repeat in Ferric Chloride 2%, Aqueous Solution if necessary until desired elastic differentiation is achieved. Repeat steps for each slide.
 - See Procedure Notes #3 and #4 (page 2).
- Wash well in tap water.

- Place in Solution D: Sodium Thiosulfate 5%, Aqueous for 1 minute.
- Wash well in running tap water for 5 minutes.
- Counterstain in Solution E: Van Gieson Stain for 3 to 5 minutes.
 - See Procedure Note #5 (page 2).
- 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:

Elastic fibers/tissue	Blue-black to black
Nuclei	Blue to black
Collagen	Red
Other tissue elements	Yellow



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. It is easy to over-differentiate in Ferric Chloride 2%, Aqueous Solution. If the background is completely colorless, the section has been over-differentiated. Over-differentiated sections may be re-stained in Verhoeff Working Solution (Step #3) provided sections have not been treated with an alcohol step.
4. For optimal results, slides must be individually differentiated. Timing of each slides differentiation can vary dependent upon the amount of elastic tissue present in sections.
5. Do not prolong staining in Solution E: Van Gieson Stain. The picric acid element will act to further differentiate the stain.
6. If using a xylene substitute, closely follow the manufacturer's recommendations for deparaffinization and clearing steps.

REFERENCES:

1. Carson, Freida, *Histotechnology: A Self-Instructional Text*. 2nd ed. Chicago: ASCP Press, 1997. 138-140.
2. Sheehan, Dezna C., and Barbara B. Hrapchak. *Theory and Practice of Histotechnology*. 2nd ed. St. Louis: Mosby, 1980. 196-197.
3. Modifications developed by Newcomer Supply Laboratory.