

Elastic, Aorta Control Slides – Technical Memo

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

PRODUCT SPECIFICATIONS:

Tissue: Positive staining aorta.

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

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

Quality Control Stain: Verhoeff-Van Gieson Elastic 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 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, Lugol's, 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

APPLICATION:

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

PRESTAINING PREPARATION:

- Heat dry sections in oven according to your laboratory protocol.
- Prepare **fresh** Verhoeff Working Solution by combining in the exact order listed, mixing well after each addition. Save for Step #5.
 - Solution A: Hematoxylin 5%, Alcoholic* 20 ml
 - Solution B: Ferric Chloride 10%, Aqueous* 8 ml
 - Solution C: Iodine, Lugol's, Aqueous* 8 ml
- Prepare **fresh** Ferric Chloride 2%, Aqueous Solution for Step #7.
 - Solution B: Ferric Chloride 10%, Aqueous* 10 ml
 - Distilled water* 40 ml

STAINING 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 **fresh** Verhoeff Working Solution (Step #2) for 20 minutes.
 - Discard solution after successful differentiation in Step #7.*
- Rinse in several changes of tap water.
- Differentiate **each slide individually** in **fresh** Ferric Chloride 2%, Aqueous Solution (Step #3) with agitation; approximately 20 dips.
- Check differentiation: rinse well in tap water and check microscopically for black elastic staining with gray background.
 - If necessary, return to Ferric Chloride 2%, Aqueous Solution until desired elastic differentiation is achieved.*
 - See Procedure Notes #3 and #4.*
- 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.
- 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/nuclei	Blue-black to black
Collagen	Red
Other tissue elements	Yellow

PROCEDURE NOTES:

- Drain slides after each step to prevent solution carry over.
- Do not allow sections to dry out at any point during procedure.
- If background is colorless, the section has been over-differentiated.
 - Over-differentiated sections may be re-stained in Step #5 provided sections have not been treated with alcohol.*
- Differentiation can vary between slides dependent upon the amount of elastic present in sections.
- If using a xylene substitute, closely follow the manufacturer's recommendations for deparaffinization and clearing steps.

REFERENCES:

- Carson, Freida L., and Christa Hladik Cappellano. *Histotechnology: A Self-instructional Text*. 4th ed. Chicago: ASCP Press, 2015. 167-169.
- Mallory, Frank Burr, and James Homer Wright. *Pathological Technique*. 7th ed. Philadelphia, PA: W.B. Saunders Company, 1918. 118-119.
- Modifications developed by Newcomer Supply Laboratory.

