



VitroView™ Verhoeff-Van Gieson Elastin Stain Kit
SKU No. VB-3019

Introduction

Elastin is a highly elastic protein in connective tissue and allows many tissues in the body to resume their shape after stretching or contracting. It is usually thinner than collagen fibers. VitroView™ Verhoeff-Van Gieson Elastin Stain Kit is used for identifying elastic fibers in tissues such as skin, aorta, etc. on formalin-fixed, paraffin-embedded sections, and may be used for frozen sections as well. The elastic fibers will be stained blue-black and background will be stained yellow.

Kit Components

- VB-3019-1 Alcoholic Hematoxylin-----100ml
- VB-3019-2 10% Ferric Chloride Solution-----100ml
- VB-3019-3 Weigert's Iodine Solution-----100ml
- VB-3019-4 5% Sodium Thiosulfate Solution-----100ml
- VB-3019-5 Van Gieson's Solution-----100ml

Storage

Room temperature.

Things to do before starting

1. Preparation of Verhoeff's Working Solution

The working staining solution should be made up fresh for best results. It will not stain satisfactorily if it is kept more than one working day. Prepare the working solution by adding in order the following reagents:

- Alcoholic Hematoxylin -----20 ml
- 10% Ferric Chloride Solution-----8 ml
- Weigert's iodine solution ----- 8 ml

Mix the above amounts (or needed proportions thereof) well. Solution should be jet black. Use immediately and discard after use.

2. Preparation of 2% aqueous ferric chloride

- 10% Ferric Chloride Solution----- 10 ml
- Distilled water ----- 50 ml

Protocol

1a. For formalin-fixed, paraffin-embedded (FFPE) tissue sections: Sides need to be deparaffinized and rehydrated.

- a) Xylene (6 minutes)×2
- b) Ethanol 100% (2 minutes)×2
- d) Ethanol 95% (2 minutes)×2
- f) Ethanol 70% (2 minutes) ×1

1b. For Frozen Sections: fix frozen sections in 10% formalin for 30 minutes.

- 2. Rinses in distilled water 2min×3.
- 3. Stain in Verhoeff's Working Solution for 1 hour, tissue should be black.
- 4. Rinse in tap water with 2-3 changes.
- 5. Differentiate in 2% Ferric Chloride for 1-2 minutes.
- 6. Stop differentiation with several changes of tap water and check microscopically for black elastic fiber staining and gray background.

Note: It is better to slightly under differentiate the tissue, since the subsequent Van Gieson's counterstain can sort of extract the elastic stain.

7. Wash slides in tap water.
8. Treat with 5% Sodium Thiosulfate Solution for 1 minute, discard solution.
9. Wash in running tap water for 5 minutes.
10. Counterstain in Van Gieson's Solution, for 3-5 minutes.
11. Dehydrate with 2 changes of 95% Ethanol and 2 changes of 100% Ethanol (2 minute per change).
12. Clear with 3 changes of xylene (5 minute per change) and coverslip with Permount or other suitable organic mounting medium.

Expected results

- Elastic fibers ----- blue-black to black
- Nuclei ----- blue to black
- Collagen ----- red
- Other tissue elements ----- yellow

Positive control tissue: Artery or skin

Note

This product is intended for research purposes only. This product is **not** intended to be used for therapeutic or diagnostic purposes in humans or animals.

Precautions

Handle with care in chemical hood. Avoid contact with eyes, skin and clothing. Do not ingest. Wear gloves.