Diagnostic BioSystems

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Elastic Stain Kit (Modified Verhoff's)

Catalog Number: KT012

**This data sheet is applicable to all sizes (volume) of product. Actual volume is indicated on vial.

Document #: DS-3007-A
Effective Date: 02/015/15

Intended Use
For In Vitro Diagnostic Use

Summary and Explanation
The Elastic Stain Kit (Modified Verhoff's) is intended for use in histological demonstration of elastin in tissue sections. Demonstration of elastic tissue is useful in cases of emphysema (atrophy of elastic tissue), arteriosclerosis (thinning and loss of elastic fibers) and various other vascular diseases.

Elastic fibers: Black to Blue/Black
Nuclei: Blue to Black
Collagen: Red
Muscle & Other: Yellow

Control Tissue
Tissues fixed in 10% formalin are suitable for use prior to paraffin embedding. Consult references (Kiernan, 1981: Sheehan & Hrapchak, 1980) for further details on specimen preparation.

1. Cut sections, usually 3 to 5 µm and pick the sections up on glass slides.
2. Bake the slides for at least 30 minutes at approximately 70°C.
3. Allow to cool.

Recommended Positive Control

1. Lung
2. Vascular Tissue

Reagents Provided

Kit Contents	Volume	Storage
Hematoxylin Solution (5%)	250 mL	15-30°C
Ferric Chloride (10%, Aqueous)	125 mL	15-30°C
Lugol's Iodine Solution	125 mL	15-30°C
Ferric Chloride (2%) Differentiating Solution	125 mL	15-30°C
Sodium Thiosulfate Solution (5%)	125 mL	15-30°C
Van Gieson's Solution	125 mL	15-30°C

Storage and Handling
Do not use product after the expiration date printed on vial. If reagents are stored under conditions other than those specified here, they must be verified by the user. Diluted reagents should be used promptly.

Prepare the Following Solutions Before Use
Prepare working Elastic Stain Solution by mixing

1. 30 mL Hematoxylin Solution (5%)
2. 12 mL Ferric Chloride Solution (10%)
3. 12 mL Lugol's Iodine Solution
4. Mixed solution may be used for 24 hours.

Note
Removal of mercury deposits is not required for tissues that have been fixed in mercury containing fixatives since it will be removed by the staining solution.

Staining Procedure

1. Deparaffinize sections if necessary and hydrate to distilled water.
2. Place slides in working Elastic Stain Solution for 15 minutes.
3. Rinse in running tap water until no excess stain remains on slide.
4. Dip slides in Ferric Chloride (2%) Differentiating Solution 15-20 times and rinse in tap water.
5. Check slides microscopically for proper differentiation. Repeat step 4 if required. Rinse in running tap water.
6. Place slides in Sodium Thiosulfate Solution (5%) for 1 minute.
7. Rinse in tap water.
8. Stain slide using Van Gieson's Solution for 2-5 minutes.
9. Rinse in two changes of 95% alcohol. Dehydrate in absolute alcohol.
10. Clear, and mount in synthetic resin.

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Limitations of the Procedure

1. Histological staining is a multiple step diagnostic process that requires specialized training in the selection of the appropriate reagents, tissue selections, fixation, processing, preparation of the slide, and interpretation of the staining results.
2. Tissue staining is dependent on the handling and processing of the tissue prior to staining.
3. Improper fixation, freezing, thawing, washing, drying, heating, sectioning, or contamination with other tissues or fluids may produce artifacts or false negative results.
4. The clinical interpretation of any positive staining, or its absence, must be evaluated within the context of clinical history, morphology and other histopathological criteria. It is the responsibility of a qualified pathologist to be familiar with the special stain and methods used to produce the slide.
5. Staining must be performed in a certified licensed laboratory under the supervision of a pathologist who is responsible for reviewing the stained slides and assuring the adequacy of positive and negative controls.

Precautions

1. Consult local and/or state authorities with regard to recommended method of disposal.
2. Materials of human or animal origin should be handled as biohazardous materials and disposed of with proper precautions.
3. Avoid microbial contamination of reagents. Contamination could produce erroneous results.
4. This reagent may cause irritation. Avoid contact with eyes and mucous membranes.
5. If reagent contacts these areas, rinse with copious amounts of water.
6. Do not ingest or inhale any reagents.

Troubleshooting

If unexpected staining is observed which cannot be explained by variations in laboratory procedures and a problem is suspected, contact Diagnostic BioSystems Technical Support at (925) 484-3350, extension 2 or techsupport@dbiosys.com.

References

I. Prophet, E.B., et al. A.F.I.P. Laboratory Methods in Histotechnology. Page 134, 1994.
II. Carson, F.L., Histotechnology: A Self Instructional Text, ASCP Press, Chicago, IL. Pages 138-139, 1990.
III. Sheenan, D.C., Hrapchak, B.B. Theory and Practice of Histotechnology, 2nd Edition. CV Mosby, St. Louis, MO. Pages 196-197, 1980.
IV. Mallory, F.B. Pathological Technique, 3rd Edition. Hafner Publishers, New York. Page 169, 1968.

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