



Instructions For Use

KT 012-IFU

Document #: DS-3007-D

Release Date: 07/07/2025

Elastic Stain Kit

(Modified Verhoeff's)

Description and Principle

The Elastic Stain Kit 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.

Tissue is overstained with a Working Elastic Stain Solution which contains unoxidized Hematoxylin, an oxidizer (Ferric Chloride) and a mordant (Iodine). Excess elastic stain is then removed from the tissue using a dilute Ferric Chloride solution which differentiates elastic fibers and nuclei (black) from the rest of the tissue counterstained by Van Gieson's Solution

Expected Results

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

Kit Contents

	Volume	Storage
1. Hematoxylin Solution (5%)	250 ml	15-30°C
2. Ferric Chloride (10%, Aqueous)	125 ml	15-30°C
3. Iodine Solution	125 ml	15-30°C
4. Ferric Chloride (2%) Differentiating Solution	125 ml	15-30°C
5. Sodium Thiosulfate Solution (5%)	125 ml	15-30°C
6. Van Gieson's Solution	125 ml	15-30°C

Suggested Controls (not provided)

Lung or any vascular tissue.

Uses/Limitations

For In-Vitro Diagnostic use only.

Do not use past expiration date.

Use caution when handling reagents.

Non-Sterile

Intended for FFPE sections cut at 5-10µm.

This procedure has not been optimized for frozen sections.

Frozen sections may require protocol modification.

Storage

Store kit and all components at room temperature (15-30°C).

Safety and Precautions

Please see current Safety Data Sheets (SDS) for this product and components GHS classification, pictograms, and full hazard/precautionary statements. If there is any serious incident that has occurred in relation to the device, please contact the manufacturer: Diagnostic BioSystems Technical Support at (925) 484-3350, extension 2 or techsupport@dbiosys.com. If required, please report to the Competent Authority of the Member State in which the user and/or patient is established.

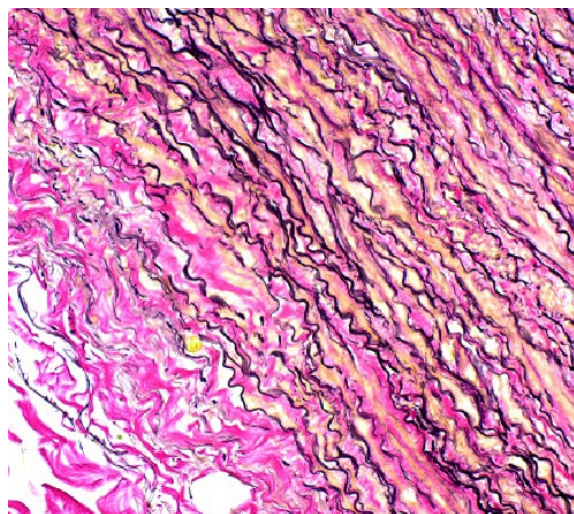
Preparation of Reagents Prior to Beginning:

- Prepare **Working Elastic Stain Solution** by mixing:
 - 2 parts** Hematoxylin Solution (5%)
 - 1 part** Ferric Chloride Solution (10%)
 - 1 part** Lugol's Iodine Solution.

(Mixed solution may be used for 24 hours)

Example: 2mls Hematoxylin Solution, 1ml Ferric Chloride, 1ml Lugol's Iodine.

Example (dropper): Use enclosed graduated mixing vial – 14 drops (560µl) + 7 drops (280µl) + 7 drops (280µl) Total: 1120µl or 1.12ml



Elastic fibers on Aorta demonstrated at using Elastic Stain Kit (Modified Verhoeff's) Magnification 200X

(1 drop = ~40µl)

We suggest making at least 1ml working solution per slide if staining on horizontal slides because solution is alcoholic and more susceptible to evaporation.

2. Note: Lugol's Iodine Solution will cause staining of all kit vials and labels over time. This does not adversely affect the performance of this product and is merely cosmetic in nature.

3. 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.

Procedure

- Deparaffinize sections if necessary and hydrate to distilled water.
- Stain tissue section with working Elastic Stain Solution for 15 minutes.
- Rinse in running tap water until no excess stain remains on slide.
- Dip slides in Ferric Chloride (2%) Differentiating Solution 10-20 times and rinse in tap water.
- Check slides microscopically for proper differentiation. Repeat step 4 if required.
- Rinse in running tap water.



Diagnostic BioSystems
6616 Owens Drive
Pleasanton, CA, 94588
Tel: (925) 484 3350
www.dbiosys.com



CH REP
MedEnvoy Switzerland
Gotthardstrasse 28
6302 Zug
Switzerland



MedEnvoy Global B.V.
Prinses Margrietplantsoen 33 - Suite 123
2595 AM The Hague
The Netherlands

7. Place slides in Sodium Thiosulfate Solution (5%) for 1 minute.
8. Rinse in tap water for 2 minutes followed by 2 changes in distilled water.
9. Stain slide using Van Gieson's Solution for 2 minutes.
10. Rinse in two changes of 95% alcohol.
11. Dehydrate in absolute alcohol.
12. Clear, and mount in synthetic resin.

References

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



Diagnostic BioSystems
6616 Owens Drive
Pleasanton, CA, 94588
Tel: (925) 484 3350
www.dbiosys.com



CH REP 
MedEnvoy Switzerland
Gotthardstrasse 28
6302 Zug
Switzerland

EC REP 
MedEnvoy Global B.V.
Prinses Margrietplantsoen 33 - Suite 123
2595 AM The Hague
The Netherlands