



**Diagnostic  
BioSystems**

# Instructions For Use KT 031-IFU

Document #: DS-3024-F

Release Date: 07/08/2025

6616 Owens Drive, Pleasanton, CA 94588 U.S.A. - Tel. (925) 484-3350 - Fax (925) 484-3390 - [www.dbiosys.com](http://www.dbiosys.com)

## Reticulum Stain Kit

### Description and Principle

The Reticulum Stain Kit is intended for use in histological demonstration of reticular fibers. The main function of reticular fibers is to provide support. They are normally found throughout the body, particularly in liver, lymph node, spleen and kidney. Ammoniacal silver stains are a common method for demonstrating reticular fibers.

Hexose sugars of reticular fibers are oxidized to aldehydes by potassium permanganate. Ferric ammonium sulfate binds to reticulum and is replaced by silver from an ammoniacal silver solution. Impregnated silver is then reduced to a visible metallic form with formalin and toned with gold chloride.

### Expected Results

Reticulum: Black  
Nuclei: Red

### Kit Contents

	Volume	Storage
1. Potassium Permanganate Solution (1%)	125 ml	15-30°C
2. Potassium Metabisulfite Solution (3%)	125 ml	15-30°C
3. Ferric Ammonium Sulfate Solution (3%)	125 ml	15-30°C
4. Formalin Solution (20%)	125 ml	15-30°C
5. Gold Chloride Solution (0.1%)	125 ml	2-8° C
6. Sodium Thiosulfate Solution (5%)	125 ml	15-30°C
7. Nuclear Fast Red Solution (Enhanced Stability)	125 ml	15-30°C
8. Sodium Hydroxide Solution (3%)	125 ml	15-30°C
9. Silver Nitrate Solution (10%)	10 ml x 5	2-8° C

### Suggested Controls (not provided)

Liver, Kidney, Lymph Node, Spleen.

### 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

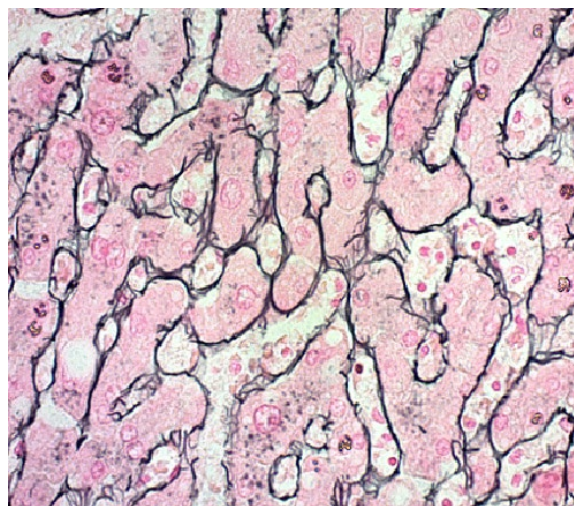
Mixed storage conditions. Store according to individual label instructions.

### 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](mailto:techsupport@dbiosys.com). If required, please report to the Competent Authority of the Member State in which the user and/or patient is established.

### Required but not included:

Concentrated Ammonium hydroxide Solution (25-30%)



Reticular fibers in Human Liver stained using Reticulum Stain Kit. Viewed at 400X magnification.

### Important Notes

1. All glassware used in this procedure should be chemically cleaned and rinsed thoroughly in distilled water.

2. Do not use metal forceps to remove slides from reagents. Use plastic forceps only.

3. Equilibrate all reagents to room temperature prior to use.

### Preparation of Reagent Prior to Beginning:

**Note:** Use extreme care in preparation and use of Ammoniacal Silver Solution. Store Ammoniacal Silver Solution in a refrigerator to avoid the formation of explosive compounds. If Ammoniacal Silver Solution is exposed to sunlight, it will explode. Dispose of waste observing all local, state and federal laws.

1. Prepare working Ammoniacal Silver Solution using chemically cleaned glassware in a chemical fume hood as follows:

Add one (10ml) vial of Silver Nitrate Solution to 17ml of Distilled Water and mix completely. Add 1ml of Concentrated Ammonium hydroxide (25-30%) (Not Included in Kit) while continuously mixing. The mixture will initially turn brown and then become clear. Add 10ml of Sodium Hydroxide Solution (3%) and mix completely. If the solution does not remain colorless, add Concentrated Ammonium hydroxide (25-30%) drop by drop until no precipitate remains. Add Distilled Water to a total volume of 60ml and mix completely. Solution is now ready for use.



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

**Procedure:**

1. Deparaffinize sections if necessary and hydrate to distilled water.
2. Place slide in Potassium Permanganate Solution (1%) for 5-10 minutes.
3. Rinse in 3 changes of distilled water.
4. Differentiate in Potassium Metabisulfite Solution (3%) until section is transparent.
5. Rinse in 3 changes of distilled water.
6. Apply Ferric Ammonium Sulfate Solution (3%) for 10 minutes.
7. Rinse in 2 quick changes of distilled water.
8. Apply working Ammoniacal Silver Solution for 2-3 minutes.
9. Rinse in 3 changes of distilled water.
10. Place slide in Formalin Solution (20%) for 1 minute.
11. Rinse in 3 changes of distilled water.
12. Apply Gold Chloride Solution (0.1%) for 3-5 minutes.
13. Rinse in 2 changes of distilled water.
14. Apply Sodium Thiosulfate Solution (5%) for 1-2 minutes to remove unreduced silver.
15. Rinse in tap water for 2 minutes.
16. Counterstain using Light Green Solution for 2-5 minutes.
17. Rinse quickly in Absolute Alcohol.
18. Dehydrate through 3 changes of Absolute Alcohol.
19. Clear, and mount in synthetic resin.

**References**

1. Gomori, G., A Modification of the Silver Impregnation Method of Staining Reticular Fibers. American Journal of Clinical Pathology, Volume 21, Pages 897-899, 1951.



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