

Reticulin Stain Kit

PRINCIPLE

The tissue is oxidized, then sensitized with the iron alum, which is replaced with silver. The silver is reduced with formalin to its visible metallic state.

DESCRIPTION

Used for the identification of reticulin fiber in tissue sections commonly the liver, kidney and spleen. Reticulin is a type III collagen found in the basement membrane of many organs and provides structural integrity. Reticulin Stain Kit is a metal impregnation technique, ammoniacal silver initially binds to the tissue component of interest, reducing agent (formalin) produces a dark insoluble precipitate, then treated by toning and fixing in sodium thiosulfate.

KIT COMPONENTS

Potassium Permanganate, 1% Aqueous Solution (500ml)
Oxalic Acid, 1% Aqueous Solution (500ml)
Ferric Ammonium Sulfate, 2.5% Aqueous Solution (500ml)
Silver Nitrate, 10% Aqueous Solution Store at 4°C (100ml)
Ammonium Hydroxide, 28-30% ACS (100ml)
Sodium Hydroxide, 3% Aqueous (100ml)
Formalin, 10% Aqueous Solution (500ml)
Gold Chloride, 0.2% Aqueous (500ml)
Sodium Thiosulfate, 5% Aqueous (500ml)
Nuclear Fast Red Stain Solution (500ml)

CONTROL Normal Liver

FIXATIVE 10% Formalin

TECHNIQUE Cut paraffin sections at 4m to 5m

EQUIPMENT Acid cleaned glassware pipettes

PROCEDURE

1. Deparaffinize and hydrate to distilled water
2. Potassium permanganate solution, 5 minutes
3. Wash in water
4. 5% oxalic acid until clear
5. Wash in distilled water
6. Iron alum solution, 10 minutes
7. Wash in running tap water, rinse in distilled, 3 changes
8. Silver solution, 7 dips, shake excess solution off slides
9. Distilled water, 2 changes, 3 quick dips each
10. 10% formaldehyde solution until gray black, 30 seconds
11. Wash in distilled water
12. 0.5% Gold chloride, 1 minute
13. Rinse in distilled water
14. 5% hypo, 1 minute
15. Wash in tap water
16. Nuclear-fast red solution, 5 minutes
17. Wash in running tap water
18. Dehydrate, clear, and coverslip

RESULTS

Reticular Fibers - black
Nuclei - red

NOTES

1. Use acid clean glassware, or rinse 5x with distilled water.
2. When making working silver solution, if over 30 drops of ammonium hydroxide are used to turn the solution, then the ammonium hydroxide is too old. Start over with fresh ammonium hydroxide.
3. When adding the 3% sodium hydroxide solution to the silver solution it should turn black, if not make fresh sodium hydroxide.
4. Because of the alkalinity of the solution, it may cause some tissues to fall off the slides, celloidinize
5. Change distilled water after every slide, step '9'.

REFERENCE

Bancroft J, Stevens A, Theory and Practice of Histological Techniques, 2nd Ed, 1982, pp142-143, Churchill Livingstone, NY
Carson F, Histotechnology: A Self-Instructional Text, 1990, pp154-155, ASCP, Ill
Crookham, J, Dapson, R, Hazardous Chemicals in the Histopathology Laboratory, 2nd ED, 1991, Anatech
Lillie, R.D. 1977 H.J. Conn's Biological Stains, 9th edition Williams and Wilkins

Please refer to the MSDS for chemical and safety information

ORDERING INFORMATION

Cat. #	Description	Sizes
25094	Reticulin Stain Kit	1 kit

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