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F-385 MODIFIED MOVATS

Fixation: **10% Buffered Neutral Formalin** (F-110) or **Bouin's Solution** (F-40)
Note: If formalin fixative is used, decerated tissue sections must be mordanted in **Bouins Fluid** for 1 hour in a 50°C oven. Wash well in running water to remove picric acid deposits.

Sections: 4-6 microns

Procedure:

1. Decerate section and hydrate to distilled water.
2. Stain in **Alcian Blue, 1%** (F-385-1) for 20 minutes.
3. Dip five times in distilled water.
4. Place in **Alkaline Alcohol** (F-385-2) in a 56°C oven for 10 minutes.
5. Wash in running tap water for 2 minutes.
6. Stain in Orcein-Verhoeff working solution for 2 hours.
   To prepare Orcein-Verhoeff working solution:
   Immediately before use, in the following order, combine the solutions below:
   Orcein, 0.2% (F-385-3) 25.0 ml
   Alcoholic Hematoxylin, 5% (F-385-4) 8.0 ml
   Ferric Chloride, 10% (F-385-5) 5.0 ml
   Lugol's Iodine (F-385-6) 5.0 ml
7. Wash in running tap water for 3 minutes.
8. Stain in **Woodstain Scarlet- Acid Fuchsin Working Solution** (F-385-7) for 2 1/2 minutes.
9. Place in **Acetic Acid, 0.5%** (F-385-8) for 30 seconds.
10. Differentiate in **Phosphotungstic Acid, 5%** (F-385-9) for 5-10 minutes, well differentiated sections demonstrate colorless collagen and blue-green mucopolysaccharides.
11. Rinse in **Acetic Acid, 0.5%** (F-385-8) for 30 seconds.
12. Three changes of 100% ethyl alcohol, 1 minute each,
13. Stain in **Alcoholic Saffron** (F-385-10) for 8 minutes.
14. Dehydrate in 100% ethyl alcohol, two changes.
15. Clear in xylene, three changes.
16. Coverslip.

Stain Results:

Nuclei	Black
Cytoplasm	Red
Elastic Fibers	Purple to Black
Collagen and Bone	Yellow
Mucopolysaccharides	Blue-Green
Muscle	Red

References:
Movat, H.Z.,: Demonstation of all Connective Tissue Elements in a Single Section.
Arch Path., 60:289-295, 1955.
Roman N., et al: Orcein-Hematoxylin in Iodized Ferric Chloride as a Stain for Elastic Tissue.
Stain Techn., 42:199-202, 1967.
Silverman Jefferey., A Modified Movat Pentachrome Stain.
Histologic, p. 33. 1972

Reviewed and Approved

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