

RUSSELL-MOVAT PENTACHROME STAIN KIT PROCEDURE

Item# **KTRMP**

(Revised 04/19/11)

KIT COMPONENTS INCLUDED:	100 ml 10% ALCOHOLIC HEMATOXYLIN	100 ml 10% FERRIC CHLORIDE
	100 ml UNIVERSAL IODINE SOLUTION™	100 ml 2% FERRIC CHLORIDE
	100 ml 5% SODIUM THIOSULFATE	100 ml 3% GLACIAL ACETIC ACID
	100 ml 1% ALCIAN BLUE SOLUTION	100 ml CROCEIN SCARLET- ACID FUCHSIN
	200 ml 1% GLACIAL ACETIC ACID	200 ml 5% PHOSPHOTUNGSTIC ACID
	100 ml ALCOHOLIC SAFFRON SOLUTION	

PRINCIPLE: This kit demonstrates collagen, elastic fibers, fibrinoid, mucin, muscle, and nuclei.

SPECIMEN: Any well fixed paraffin embedded tissue cut at 4 to 5 microns.

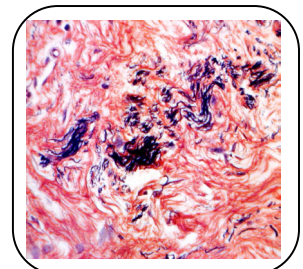
QUALITY CONTROL: American MasterTech Recommended Control Slides:
Aorta, CSA0825P; Skeletal Muscle, CSS0725P

VERHOEFF'S ELASTIC STAIN: Mix these components in the order shown below just prior to use!

1. **10% ALCOHOLIC HEMATOXYLIN**..... 20 ml
2. REAGENT ALCOHOL 20 ml
3. **10% FERRIC CHLORIDE** 20 ml
4. **UNIVERSAL IODINE SOLUTION™** 20 ml

PROCEDURE:

1. Deparaffinize slide using Xylene or a Xylene Substitute and hydrate through alcohols.
2. Rinse slide in Distilled water.
3. Place slide in **Verhoeff's Elastic Stain** for 15 to 20 minutes.
4. Rinse slide in lukewarm running Tap water for 5 minutes, followed by Distilled water.
5. Differentiate section in **2% FERRIC CHLORIDE** until elastic fibers are sharply defined. (*Check using microscope!*)
6. Rinse slide in Distilled water and place in **5% SODIUM THIOSULFATE** for 1 minute.
7. Rinse slide in running Tap water for 5 minutes.
8. Place slide in **3% GLACIAL ACETIC ACID** for 3 minutes.
9. Place slide directly in **1% ALCIAN BLUE SOLUTION** for 15 to 30 minutes or until mucins are blue.
10. Rinse slide thoroughly in warm running Tap water for 1 minute, then rinse in Distilled water.
11. Place slide in **CROCEIN SCARLET- ACID FUCHSIN** for 2 minutes.
12. Rinse slide through 3 changes of Distilled water.
13. Dip slide 5 times in **1% GLACIAL ACETIC ACID**.
14. Place slide in 2 changes of **5% PHOSPHOTUNGSTIC ACID** for 2 to 5 minutes each. Check section under microscope; stop differentiation when connective tissue is clear but before the elastic fibers are de-stained.
15. Dip slide 5 times in **1% GLACIAL ACETIC ACID**.
16. Dehydrate slide through 3 changes of fresh Absolute Alcohol.
17. Place slide in **ALCOHOLIC SAFFRON SOLUTION** for 15 minutes.
18. Dehydrate slide through 3 changes of fresh Absolute Alcohol.
19. Clear slide through 3 changes of fresh Xylene or Xylene Substitute.
20. Coverslip using a permanent mounting media.



Human Breast Tissue

RESULTS:

Elastic fibers, nuclei: BLACK	Muscle: RED
Collagen: YELLOW	Fibrinoid: INTENSE RED
Mucins: BLUE TO GREEN	

REFERENCES: Movat HZ: Demonstration of all connective tissue elements in a single section; Arch Path 1955, 60: 289.
Russell K: Pentachrome stain modification; Arch Path 94: 1972, 187.

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