

SCHMORL'S METHOD FOR REDUCING SUBSTANCES (Microwave)

PURPOSE:	For In Vitro Diagnostic Use: Intended for the qualitative demonstration of reducing substances and mucin.
PRINCIPLE:	All argentaffin tissue components will reduce the Ferric-Ferricyanide Solution and stain blue-green. Aluminum is believed to form a chelation complex with the carmine, changing the molecule to a positive charge allowing it to bind with the acid substrates of low density such as mucins.
CONTROL:	Skin, small intestine <i>Control Slides can be purchased from Histology Control Systems. See inside back cover, Item# cs008.</i>
SPECIMEN PREPARATION:	Zenker's or other well-fixed tissue, paraffin embedded sections cut at 4-6 micrometers
SOLUTIONS:	<ol style="list-style-type: none"> 1. Ferric Chloride 1% Aqueous Item# s2039 2. Potassium Ferricyanide 1% Aqueous Item# s2038 <i>Working Solution: Mix just before use.</i> Ferric Chloride 1% Aqueous.....30 mL Potassium Ferricyanide 1%.....10 mL Adjust the pH to 2.4 with a few drops of Dilute Hydrochloric Acid if necessary. 3. Mayer's Mucicarmine Solution Item# s246 4. Metanil Yellow 0.25% Aqueous Item# s239 <p><i>Solutions can be purchased separately from Poly Scientific.</i></p>
NOTES:	<i>Variations in timing may occur due to the power wattage of the microwave oven. Provided times and power levels are based on 1000 watt microwave oven.</i>
REFERENCE:	Bancroft, J. D. & Stevens, A. <u>Theory and Practice of Histological Techniques</u> . 4th Ed. Churchill Livingstone. New York. 1996. p. 253.

STAINING PROCEDURE:

1. Deparaffinize and hydrate slides to distilled water.
2. Place 40 mL of Working Solution in a plastic coplin jar (loosely apply cap) and microwave for 20 seconds. Stir and re-microwave for an additional 20 seconds. Stir and place slides in solution for 2 minutes.
3. Rinse slides in distilled water.
4. Place 40 mL of Mayer's Mucicarmine Solution in a plastic coplin jar (loosely apply cap) and microwave for 20 seconds. Stir and re-microwave for an additional 20 seconds. Stir and place slides in solution for 10 minutes.
5. Rinse slides in distilled water.
6. Place slides in Metanil Yellow 0.25% Aqueous for 1-2 minutes.
7. Rinse slides in distilled water.
8. Dehydrate in 95% Alcohol, Absolute Alcohol and clear in Xylene, 2 changes each.
9. Mount with Poly Mount (Item# s2153) or any other acceptable mounting medium.

RESULTS:

Melanin, Argentaffin Granules Blue-Green (All Reducing Substances)
 Goblet Cells, Mucin..... Rose
 Background..... Yellow-Green

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