

FONTANA MASSON SILVER METHOD FOR ARGENTAFFIN GRANULES (Microwave)

PURPOSE:	For In Vitro Diagnostic Use: Intended for the qualitative demonstration of argentaffin substances.
PRINCIPLE:	Argentaffin substances are able to bind and reduce silver to the visible form. Gold Chloride is used as a toner by replacing some of the bound silver with gold. Sodium Thiosulfate removes excess silver. Nuclear Fast Red Kernechtrot is a counterstain.
CONTROL:	Skin <i>Control Slides can be purchased from Histology Control Systems. See inside back cover, Item# cs019.</i>
SPECIMEN PREPARATION:	Formalin fixed, paraffin embedded sections cut at 6 micrometers
SOLUTIONS:	<ol style="list-style-type: none"> 1. Silver Nitrate Solution (Fontana) Stock Item# s181S <u>Working Silver Nitrate Solution:</u> Filter before use. Silver Nitrate Stock.....12.5 mL Distilled Water.....38.5 mL 2. Gold Chloride 1% Aqueous Item# s203 3. Sodium Thiosulfate 5% Aqueous Item# s1895 4. Nuclear Fast Red Kernechtrot 0.1% Item# s248 <p><i>Solutions can be purchased separately from Poly Scientific.</i></p>
NOTES:	This method is nonspecific since many pigments and various other reducing substances can be demonstrated, including formalin pigment. It is used widely as an aid for the demonstration of melanin, but positive results should not be interpreted as melanin pigment unless other procedures confirm the results. Argentaffin cell granules are also demonstrated with this method.
REFERENCE:	Luna, Lee G. <u>Histopathologic Methods and Color Atlas of Special Stains and Tissue Artifacts</u> . American Histolabs Inc. Gaithersburg, MD. 1992. pp. 286-287.

STAINING PROCEDURE:

Note: Use chemically clean glassware.

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.

1. Deparaffinize and hydrate slides to distilled water.
2. Place slides in plastic coplin jar, add Working Silver Nitrate Solution and loosely apply cap. Place in microwave for 60–75 seconds.
3. Remove from microwave and place slides in distilled water. Check slides microscopically to determine if silver deposition has reached desired intensity. If intensity is not adequate replace slides in hot Silver Solution for a few seconds until proper staining results.
4. Rinse in distilled water.
5. Place in Gold Chloride 1% Aqueous for 10 seconds.
6. Rinse in distilled water.
7. Place in Sodium Thiosulfate 5% Aqueous for 1 minute.
8. Rinse in distilled water.
9. Counterstain with Nuclear Fast Red Kernechtrot 0.1% for 3 minutes.
10. Wash in tap water.
11. Dehydrate, clear in Xylene and mount with Poly Mount (Item# s2153) or any other acceptable mounting medium.

RESULTS:

Argentaffin Granules Black

Poly Scientific R&D Corp.

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