MUCICARMINE STAIN
(Procedure No. HT30)

INTENDED USE
Sigma-Aldrich Mucicarmine Staining reagents are intended for staining tissue mucins of epithelial origin. Mucicarmine staining reagents are for “In Vitro Diagnostic Use”. Tissue acid-mucopolysaccharides may be demonstrated by a variety of techniques. Mayer's mucicarmine procedure, as modified by Southgate, achieves excellent contrast between red staining mucin and other cellular components. Aluminum, contained in the formulation, is believed to form a chelate complex with mucin, to which carmine attaches by dye-link formation. The stain displays a specificity towards mucins of epithelial origin, whereas mucins of fibroblastic origin stain poorly. Its major use may be in identification of primary tumor sites and distinguishing mucin-negative undifferentiated squamous cell lesions from mucin-positive adenocarcinomas. The procedure described by Sigma-Aldrich is similar to that of Southgate. A stable solution of tartrazine has been substituted for metanil yellow.

STORAGE AND STABILITY
Store Mucicarmine Stock Solution in refrigerator (2–8°C). Reagent is stable until expiration date shown on label. Mucicarmine Working Solution is stable for 2–3 days when stored in refrigerator (2–8°C).

PREPARATION:
Working Mucicarmine Solution is prepared by diluting Mucicarmine Stock Solution 1:4 with tap water (e.g., 10 ml Mucicarmine Stock Solution plus 30 ml tap water).

Tartrazine solution and Gill's No. 3 hematoxylin are ready to use. Solutions are stable until the stated expiration date.

Scott's Tap Water Substitute is prepared by mixing 1 part of Scott's Tap Water Substitute Concentrate with 5 parts deionized water. Solution is stable until the stated expiration date.

PRECAUTIONS:
Normal precautions exercised in handling laboratory reagents should be followed. Dispose of waste observing all local, state, provincial or national regulations. Refer to Material Safety Data Sheet and product labeling for any updated risk, hazard or safety information.

Mucicarmine TISSUE-TROL™ control slides are paraffin embedded human tissue containing collagen and muscle tissue and should be considered potentially infectious.

PROCEDURE

SPECIAL MATERIALS REQUIRED, BUT NOT PROVIDED:

Positive control slides, such as Mucin TISSUE-TROL™, Catalog No. TTR008, should be included in each run.

Tartrazine Solution, Catalog Nos. HT3024-120 ml or HT3028-250 ml

Reagent Alcohol

Xylene or xylene substitute

STANDARD PROCEDURE ONLY:

Weigert’s Iron Hematoxylin Set, Catalog No. HT1079-1 set

Staining Jars, Catalog No. S5641

MICROWAVE PROCEDURE ONLY:

Hematoxylin Solution, Gill No. 3, Catalog No. GHS316/ GHS332/ GHS380/ GHS3128

Scott’s Tap Water Substitute Concentrate, Catalog No. S5134

Coplin Jar with vented lids

MICROWAVE OVEN

NOTES:

Do not substitute deionized or distilled water for tap water when preparing the mucicarmine working solution. Masking of mucin may occur if the nuclear stain or counterstains are too intense. The data obtained from this procedure serves only as an aid to diagnosis and should be reviewed in conjunction with other clinical diagnostic tests or information.

STANDARD PROCEDURE:

2. Deparaffinize slides to deionized water.
4. Wash in running tap water for 5 minutes.
5. Stain in Working Mucicarmine Solution for 30 minutes or longer at room temperature. Check control slide under microscope.
6. Rinse in deionized water.
7. Stain in Tartrazine Solution for 1–5 seconds.
8. Rinse slides, dehydrate through alcohol, clear in xylene and mount.

MICROWAVE PROCEDURE:

1. Deparaffinize slides and hydrate to deionized water.
2. Place slides in 40 ml of Hematoxylin Solution, Gill No. 3, contained in a plastic Coplin jar. Loosely cover with lid before placing in oven, or use Coplin jars with holes drilled into them.
3. Microwave on 800 WATTS for 10 seconds.
4. Rinse in running tap water for 1–2 minutes.
5. Blue in Scott's Tap Water substitute.
6. Place slides in 40 ml of Mucicarmine Working Solution.
7. Microwave on 800 WATTS for 20 seconds. Mix gently with beral pipet or applicator stick. Let incubate for 5 minutes.
8. Rinse well in deionized water.
9. Counterstain in Tartrazine Solution for 30 seconds at room temperature.
10. Rinse quickly in deionized water.
11. Dehydrate quickly through alcohol and clear in xylene. Mount slides.

PERFORMANCE CHARACTERISTICS

If observed results vary from expected results, please contact Sigma-Aldrich Technical Service for assistance.

REFERENCES

2. Theory and Practice of Histotechnology, 2nd ed. DC Sheehan, BB Hrapchak, Editors, Mosby, St. Louis, MO, 1980
3. Selected Histochemical and Histopathologic Methods, SW Thompson, RD Hunt, Editors, CC Thomas, Springfield, IL, 1966, p 453

TISSUE-TROL is a trademark of Sigma-Aldrich Co. LLC

2014 Sigma-Aldrich Co. LLC. All rights reserved. SIGMA-ALDRICH is a trademark of Sigma-Aldrich Co. LLC, registered in the US and other countries. Sigma brand products are sold through Sigma-Aldrich, Inc. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see product information on the Sigma-Aldrich website at www.sigmaaldrich.com and/or on the reverse side of the invoice or packing slip.

SIGMA-ALDRICH, INC.
3050 Spruce Street, St. Louis, MO 63103 USA
314-771-5765
Technical Service: 800-325-0250
or e-mail at clinetech@salic.com
To Order: 800-325-3010
www.sigma-aldrich.com

SIGMA-ALDRICH Tech Services: 800-325-0250
or e-mail at clinetech@salic.com
To Order: 800-325-3010
www.sigma-aldrich.com

SIGMA-ALDRICH, INC.
3050 Spruce Street, St. Louis, MO 63103 USA
314-771-5765
Technical Service: 800-325-0250
or e-mail at clinetech@salic.com
To Order: 800-325-3010
www.sigma-aldrich.com