

## Mucicarmin Stain

<b>PRODUCT INFORMATION:</b>	<b>PERFORMANCE CHARACTERISTICS:</b>
SSP010 100ml Ready to use	<b>Staining Interpretation:</b>
SSP010 250ml Ready to use	<b>Nuclei</b> : Grey/Black
SSP010 500ml Ready to use	<b>Mucin</b> : Rose Pink
	<b>Other tissue elements</b> : Yellow

## Laboratory Use Only

**Sample preparation and fixation:** Formalin-fixed, Paraffin-embedded human tissue sections of 3- 5 µm thickness on microscopic slides.

### SUMMARY AND EXPLANATION

#### For laboratory use only

Mucicarmin stain kit is typically used to identify epithelial mucins. These mucins are a family of polysaccharides covalently linked to proteins in epithelial cells. Tumors of epithelial origin can produce excess mucin and its presence is utilized to identify tumors such as Myxomas, intestinal inflammations or carcinomas. Mucicarmin staining is also useful for staining encapsulated fungi like Cryptococcus.

### PRINCIPLE OF THE PROCEDURE

The principle of Mucicarmin staining is based on the presence of aluminum that forms a chelating complex with carmine. This changes the charge of the carmine molecule to a positive charge which allows it to bind to low density acidic substrates such as Mucins. (Positively charged carmine-aluminum complex binds with negatively charged acid Mucins). A nuclear staining solution containing alcoholic hematoxylin and acidified ferric-chloride is used to stain the cell nuclei. Ferric Chloride is a strong oxidizer, so it serves both as a mordant and oxidizer for Weigert's Iron Hematoxylin. It resists decolorization in acidic staining solutions.

### REAGENTS PROVIDED

Kit Contents	Product Code	Storage Conditions	Pack Sizes		
			100ml	250ml	500ml
Carmine Stock Solution (Reagent A)	IPS041	2 - 8° C	25ml	60ml	120ml
Weigert's Iron Hematoxylin Solution -1 (Reagent B)	IPS029	RT	50ml	125ml	250ml
Weigert's Iron Hematoxylin Solution -2 (Reagent C)	IPS042	RT	50ml	125ml	250ml
Metanil Yellow (Reagent D)	IPS043	RT	100ml	250ml	500ml

### STORAGE AND HANDLING

**Storage Recommendations:** Store at recommended temperatures. When stored at the appropriate conditions, the reagents are stable until expiry. **Do not use the reagents after expiration date provided on the vial.**

To ensure proper reagent delivery and stability, replace the dispenser cap after every use and immediately place the vials at recommended temperatures away from sunlight in an upright position.

### SPECIMEN PREPARATION

**Recommended positive controls:** Colon, Small Intestine and Appendix

### PRECAUTIONS

1. Normal precautions exercised in handling laboratory reagents should be followed.
2. This product should be used by qualified and trained professional users only
3. The product contains Alcohol and is classified as highly-flammable, must be kept away from ignition sources
4. It can cause serious eye and skin irritation. Refer to Material Safety Datasheet for any updated risk, hazard or safety information.
5. Dispose of waste observing all local, state, provincial or national regulations.
6. Do not use reagents after expiration date
7. Use protective clothing and gloves, while handling reagents
8. Avoid microbial contamination of reagents as it may lead to incorrect results

### MATERIALS REQUIRED, BUT NOT PROVIDED

- Xylenes
- Graded alcohols (50%, 70%, 95%, absolute)
- DPX Mountant
- Microscopic slides (positively charged)
- Slide holder
- Jars
- Hot air oven
- Cover slips
- Coplin jars

### PREPARATION OF WORKING SOLUTION

**Mucicarmin working solution:** Dilute Carmine Stock Solution (Reagent A) 1 part to 4 parts of distilled water.

**Weigert's Iron Hematoxylin Working Solution:** Measure equal volume of Weigert's Iron Hematoxylin Solution 1 (Reagent B) and Weigert's Iron Hematoxylin Solution 2 (Reagent C) and mix. Prepare the working solution just before staining and discard once it is used.

### STAINING PROCEDURE

#### Protocol (I):

1. Deparaffinize and rehydrate the tissue sections.
2. Stain for 8 minutes in Working solution of Weigert's Iron Hematoxylin.
3. Wash in tap water for 5 minutes.
4. Stain the sections with Mucicarmin working solution for 30 minutes or longer.
5. Check the control slide under the microscope after 30 minutes. Prolong the incubation time if necessary for intense staining.
6. Rinse quickly in distilled water.
7. Counter stain with Metanil yellow (Reagent D) solution for 15 seconds.
8. Rinse quickly in distilled water.
9. Dehydrate quickly through graded alcohols.
10. Clear in 2-3 changes of Xylene and mount with DPX Mountant.

#### Protocol (II): Microwave Protocol

1. Deparaffinize and rehydrate the tissue sections.
2. Stain for 8 minutes in working solution of Weigert's hematoxylin
3. Wash in tap water for 5 minutes.
4. Place the control slides in 40ml of Mucicarmin working solution in a glass coplin jar with lid applied loosely.
5. Microwave on High power for 30 seconds; use caution not to boil.
6. Allow the slides to stand for 5-7 minutes.
7. Rinse the sections in distilled water.
8. Counter stain the sections with Metanil yellow (Reagent D) for 15 seconds.
9. Rinse quickly in distilled water.
10. Dehydrate quickly through graded alcohols.
11. Clear in 2-3 changes of xylene and mount with DPX mountant.

#### PERFORMANCE CHARACTERISTICS

Muccicarmine for Nuclei stains Grey / Black color, Mucin stains Rose Pink color, Other Tissue Elements stains yellow color.

#### TROUBLESHOOTING

1. Follow the specific protocol recommendations according to data sheet provided
2. Tissue staining is dependent on the handling and processing of the tissue prior to staining. Improper fixation, tissue processing, freezing, thawing, washing, drying, heating, sectioning or contamination with other tissues or fluids may produce artifacts, reagent trapping or inaccurate results
3. Do not allow the section to dry out during the entire staining process
4. Excessive or incomplete counterstaining may compromise the interpretation of the results
5. If unusual results occur, contact PathnSitu Technical Support at +91-40-2701 5544 or E-mail: [techsupport@pathnsitu.com](mailto:techsupport@pathnsitu.com)


#### LIMITATIONS AND WARRANTY

Authorized and skilled personnel only may use the product. The clinical interpretation of any test results should be evaluated within the context of the patient's medical history and other diagnostic test results. A qualified pathologist must perform the evaluation of the test results. There are no warranties, expressed or implied, which extend beyond the description. PathnSitu is not liable for property damage, personal injury, time or effort on economic loss caused by this product.

#### BIBLIOGRAPHY

1. Hand book of histologic and special staining techniques of the Armed Forces Institute of Pathology
2. A modification of Southgate's Muccicarmine Method: Calvin G. Payne, B.S, Chesapeake, Virginia 23323

#### EXPLANATION OF SYMBOLS

 Lot number / Batch number



Storage limitation

Laboratory Use Only

RT- Room Temperature