

Periodic Acid- Schiff (PAS) Stain

PRODUCT INFORMATION:

SSP003 100ml Ready to use
 SSP003 250ml Ready to use
 SSP003 500ml Ready to use

PERFORMANCE CHARACTERISTICS:

Staining Interpretation:
 Nuclei : Dark Blue
 Mucin : Magenta
 Glycogen : Magenta
 Fungi : Magenta
 Basement membrane : Magenta

SUMMARY AND EXPLANATION

For laboratory use only

Periodic acid Schiff staining is one of the most commonly performed special staining technique in histopathology laboratory used to detect the polysaccharides or molecules with high percentage of carbohydrate content such as glycogen and mucosubstances such as glycoproteins, glycolipids and mucins in tissues. Additionally, it is intended to demonstrate lymphocytes in tissues which is helpful in making therapeutic decisions in established cases of lymphocytic leukemia.

PRINCIPLE OF THE PROCEDURE

The periodic acid acts as oxidizing agent which oxidizes compounds having free hydroxyl groups or amino/alkylamine groups. The tissue sections are first oxidized using periodic acid which oxidizes the vicinal bonds in these sugars, breaking the carbon-carbon bonds resulting in the pair of aldehydes. The oxidation step has to be regulated as to not further oxidize the aldehyde groups. The aldehyde groups are detected by Schiff's reagent when exposed to it. The Schiff's reagent reacts with the aldehyde groups forming colorless, unstable dialdehyde compound which transforms to insoluble magenta colored complex by restoration of quinoid chromophoric grouping.

REAGENTS PROVIDED

Kit Contents	Product Code	Storage Conditions	Pack Sizes		
			100ml	250ml	500ml
Periodic Acid (Reagent A)	IPS018	2-8°C	100ml	250ml	500ml
Schiff's Reagent (Reagent B)	SS003	2-8°C	100ml	250ml	500ml
Modified Mayer's Hematoxylin (Reagent C)	PS020	RT	100ml	250ml	500ml

STORAGE AND HANDLING

Storage Recommendations: Store at Room Temperature. 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 room temperature away from sunlight in an upright position.

SPECIMEN PREPARATION

Recommended positive controls:

Formalin-Fixed Paraffin-Embedded as well as frozen tissue sections of Liver, Kidney, Colon

Sample preparation:

- Frozen Tissue Sections of 3-5 µm thickness
- Formalin-fixed, Paraffin-embedded tissue sections of 3-5 µm thickness

PRECAUTIONS

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

MATERIALS REQUIRED, BUT NOT PROVIDED

- Xylenes
- Graded alcohols (50%, 70%, 95%, Absolute)
- Tap water
- Distilled water
- DPX Mountant
- Microscopic slides (Positively charged)
- Slide holder
- Cover slips
- Microwave oven
- Coplin jars
- Drying oven

STAINING PROCEDURE

Protocol

Standard Procedure:

- Bake and deparaffinize the sections.
- Treat with Periodic acid (Reagent A) for 5 minutes.
- Rinse well in distilled water.
- Cover the sections with Schiff's reagent (Reagent B) in a dark staining chamber for 5-15 minutes.
Note: Schiff's reagent is photosensitive and it should be used stored away from light.
- Wash in running tap water for 5-10 minutes.
- Counter stain with Modified Mayer's Hematoxylin (Reagent C) for approximately 15 seconds.
- Wash in tap water.
- Dehydrate in increasing concentrations of alcohol (70%, 80%, 95% and 100%) for 2 minutes each.
- Clear in xylene and mount the slides using or with DPX mountant.

Microwave procedure:

- Bake and deparaffinize the sections.
- Place sections in coplin jar containing Periodic acid(Reagent A).
- Microwave at 800 Watts for 10 seconds.
- Rinse well in several changes of distilled water.
- Place sections in Coplin jar containing Schiff's reagent (Reagent B).
- Microwave at 800 Watts for 15 seconds. Mix the solution using applicator stick and let incubate for 1 minute.
- Rinse gently in running tap water for 5 minutes.
- Place sections in coplin containing Modified Mayer's Hematoxylin (Reagent C).
- Microwave the sections at 800 watts for 10 seconds.
- Rinse in running tap water for 1-2 minutes.
- Dehydrate in increasing concentrations of alcohols (70%,90%,100%) for 2 - minutes each.
- Clear in xylenes and mount the slides using DPX mountant.

QUALITY CONTROL

The recommended positive tissue controls for PAS stain are tissue sections of Liver, Kidney and Colon.

PERFORMANCE CHARACTERISTICS

PAS stains positive substances for mucin, glycogen, fungi, basement membrane stains in magenta color and nuclei stains blue in 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

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

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3. Culling CFA, Allison RT, Barr WT: Cellular Pathology Technique, 4th ed. Butterworths, pp 216-220, 1985.
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EXPLANATION OF SYMBOLS

 LOT- Lot number / Batch number

 Expiry



Storage limitation

Laboratory Use Only

RT- Room Temperature