# Periodic Acid Schiff (PAS) Stain Kit

Catalogue No.:abx090679

Periodic Acid-Schiff (PAS) is a staining method used to detect polysaccharides such as glycogen, and mucosubstances such as glycoproteins, glycolipids and mucins in tissues. Periodic acid oxididatively cleaves the vicinal diols in these sugars, creating a pair of aldehydes at the two free ends of each broken monosaccharide ring. The oxidation condition has to be sufficiently regulated so as to not oxidize the aldehydes further. These aldehydes then react with the Schiff reagent, resulting in a reaction product with a purple-magenta color. A suitable basic stain is often used as a counterstain.

Contents:

- PAS Oxidant Reagent: 50 ml
- Schiff Dye Solution: 50 ml
- Mayer Hematoxylin Solution: 50 ml
- Acid Differentiation Solution: 50 ml

Materials Required But Not Provided:

- Distilled water
- Ethanol
- 10% formalin fixative solution

**Form:** Liquid

**Storage:** Store the PAS Oxidant Reagent and Schiff Dye Solution at 2-8 °C in the dark. Store the Mayer Hematoxylin Solution and Acid Differentiation Solution at room temperature in the dark.

**Note:** THIS PRODUCT IS FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC, THERAPEUTIC OR COSMETIC PROCEDURES. NOT FOR HUMAN OR ANIMAL CONSUMPTION.




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**Directions for use:**

Protocol:

1. Fix the tissue in 10% formalin fixative solution and embed by routine dehydration.
2. For paraffin sections, dewax to distilled water. For frozen sections, immerse directly in distilled water until the sample reaches room temperature.
3. Rinse with tap water for 2-3 min, then wash with distilled water twice.
4. Submerge the section in PAS Oxidant Reagent at room temperature (18-22 °C) for up to 10 minutes.
5. Wash with tap water once, and then wash with distilled water twice.
6. Submerge the section in Schiff Dye Solution in the dark at room temperature for 10-20 min
7. Rinse with tap water for 10 min.
8. Stain with Mayer Hematoxylin Solution for 1-2 min.
9. Differentiate using Acid Differentiation Solution for 2-5 seconds.
10. Wash with tap water for 10-15 min.
11. Perform conventional dehydration using gradient ethanol series. Clear with xylene and seal with resinene

Staining Results:

| Reactant | Color Observed |
|---|---|
| PAS Reaction Positive Substance | Red or purplish-red |
| Nucleus | Blue |
| Cytoplasm | Red (varying shades) |

Negative Control (Optional):

Carry out one of the following:

- Dissolve 1 g of amylase in 100 ml of PBS (pH 5.3). Treat for 30-60 min, then add together with the PAS Oxidant Reagent to the tissue (step 4 of the protocol). The result should be negative.
- Take a saliva sample after filtration and treat for 30-60 min, then add together with the PAS Oxidant Reagent to the tissue (step 4 of the protocol). The result should be negative.
- Carry out the assay procedure with the control sample but do not add the PAS Oxidant Reagent (skip steps 4 and 5 of the protocol). The result should be negative.

Notes:

- The dewaxing steps should be carried out in a sterile manner. Impurities will affect the staining.
- The PAS Oxidant Reagent and Schiff Dye Solution should be stored airtight at 4 °C. Before use, these reagents should be brought to room temperature in the dark. Avoid exposing these reagents to light and air throughout the assay.
- The reaction time after adding the PAS Oxidant Reagent and Schiff Dye Solution depends on the thickness of the section and the type of tissue.
- The staining time for frozen sections should be kept as short as possible.
- Use appropriate PPE (e.g. safety glasses, lab coat, disposable gloves) throughout the assay procedure.




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