

Periodic Acid Schiff Reaction (PAS)

Fixation: 10% NBF, Bouin's

Technique: Paraffin sections cut at 3-5 microns

Control: kidney, liver

Solutions:

0.5% Periodic Acid

Periodic acid	2.5 gm
Distilled water	500 ml

Schiff Reagent

Rowley Biochemical Institute (SO-429)

Mayer's Hematoxylin

Hematoxylin crystals	1.0 gm
Distilled water	1000.0 ml
Sodium iodate	0.2 gm
Potassium, or ammonium alum	50.0 gm
Citric acid	1.0 gm
Chloral hydrate	50.0 ml

Dissolve the alum in water. Add and dissolve the hematoxylin. Add the sodium iodate, citric acid and the chloral hydrate and stir until all are completely dissolved. The color should be reddish-violet.

Procedure:

1. Deparaffinize slides and hydrate to water.
2. Dip slides into 0.5% periodic acid for 5 minutes.
3. Rinse slides in running filtered tap water for 10 minutes.
4. Place slides in Schiff's reagent for 30 minutes.
5. Rinse slides in running filtered tap water for 10 or more minutes, until excess pink stain is removed.
6. Dip slides in distilled water.
7. Place slides in Mayer's hematoxylin for 4 minutes.
8. Rinse slides in filtered tap water for 15 to 20 minutes to blue.
9. Dehydrate, clear and coverslip slides.

Results:

Glycogen, Mucin, Reticulin, Fibrin, Colloid droplets, Hyaline of arteriosclerosis, Hyalin deposits in gomeruli, Granular cells in the renal arterioles where preserved, most Basement membranes, Colloid of pituitary stalks and thyroid, Amyloid infiltration.

Rose to purplish red

Nuclei	Blue
Fungi	Red

Reference:

Luna, L. 1968, Manual of Histologic Staining Methods of the Armed Forces Institute of Pathology, 3rd edition, pg 158-160. McGraw-Hill Book Co.

Notes:

1. To test for the breakdown of the Schiff's reagent place a few drops of the reagent into 10 ml of 37-40% formaldehyde. If the solution turns reddish purple rapidly then the reagent is good. If the reaction is slow and the color is deep blue-purple the reagent is breaking down.