UCSD Mouse Phenotyping Periodic Acid Schiff Stain (PAS)

**Reagents:**

* Periodic Acid (Fisher Scientific Cat# A223)
* Schiff’s Reagent (Fisher Scientific Cat# SS32)
* Hematoxylin 560 (Surgipath Cat#3801571)
* Scott’s Tap Water (Sigma Cat#S5134-6X100ML)

**Preparation of Reagents:**

* 1% Periodic Acid (1g/100mL of MQ water)
* Store Schiff’s Reagent at 4°C,
* But remember to take it out before periodic acid incubation, to adjust to room temperature .

**Staining Method:**

* Place slides in 1% Periodic Acid for *5 minutes*
* *Followed by* 3 washes in DI water (*10 dips each) and then dip in* MilliQ water for *10 dips*
* Immerse in Schiff’s Reagent for *15 minutes followed by* Running tap water for *10 minutes*
* Immerse in Gill’s Hematoxylin for *1 minute, followed by* 3x DI water -*10 dips each*
* Immerse in Scott’s Tap Water for *30 seconds minimum, followed by* 3x DI water -*10 dips each*
* Dehydrate and clear

**Control Tissue:**

* Colon (mucin staining)
* Liver (glycogen)
* Kidney (basement membranes )

**Expected Appearance:**

* Pink – Mucosubstances, glycogen, basement membrane
* Blue -- Nuclei

*Note: May omit Hematoxylin step to see stronger distinction in basement membranes*

Examples showing bright fuschia color in goblet cells of colon

After hematoxylin nuclear counterstain (left) and with no hematoxylin counterstain (right)



Reference: <https://link.springer.com/protocol/10.1007/978-1-4939-7163-3_14>