Colloidal Iron Stain

Purpose/Policy Statement:
For diagnostic purposes, to demonstrate the presence of acid mucopolysaccharides.

Definitions:
• n/a

STEPS / KEY POINTS

PROCEDURE:
1. Deparaffinize and hydrate sections to DH2O.
2. FLAT SLIDE: Treat tissue sections with 12% Acetic Acid solution for 30 sec. Discard solution.
3. FLAT SLIDE: Treat tissue sections with Working Colloidal Iron solution for 30 min; agitate several times during staining. Discard solution.
4. Rinse sections through 3 changes of 12% Acetic Acid solution for 2 min each. Discard solution.
5. Stain tissue sections with Working Iron Stain solution for 10 min; agitate several times during staining. Discard solution.
6. Thorough DH2O rinse X 3.
7. FLAT SLIDE: Stain tissue sections with Van Gieson’s Stain for 45 sec. Discard solution.
8. Dehydrate slides through 3 changes of fresh 100% EtOH.
10. Coverslip with synthetic medium.

QUALITY CONTROL: Each time the procedure is performed, small intestine or kidney tumor control slide will be labeled with the current date, "COLLOIDAL IRON" and patient accession number. Control and patient should be on the same slide. A control will be stained simultaneously with the patient slide(s) per batch if the patients do not fit on the same slide as the control.

PROFICIENCY TESTING: College of American Pathologists HistoQIP.

RESULTS:
Acid mucopolysaccharides – bright blue.
Collagen – shades of red.

**PROCEDURE NOTES:** Lesser volumes of kit components and working solutions may be prepared to accommodate economical product use.

**SPECIMEN:** Paraffin sections cut at 4 microns and mounted on charged glass microslides.

**MATERIALS, REAGENTS:** Colloidal Iron Stain Kit #KTCIR, American MasterTech

**KIT COMPONENTS INCLUDED:**
- 1 PINT 12% ACETIC ACID
- 100ml 3% HYDROCHLORIC ACID
- 100ml 3% POTASSIUM FERROCYANIDE
- 100ml COLLOIDAL IRON STOCK
- 100ml VAN GIESON’S STAIN

### CAUTION: CORROSIVE, IRRITANT
Wear appropriate protective equipment.

**SOLUTIONS: Large Amount**

**WORKING Colloidal Iron**

<table>
<thead>
<tr>
<th>Component</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>DH₂O</td>
<td>15 ml</td>
</tr>
<tr>
<td>Conc. Acetic Acid</td>
<td>5 ml</td>
</tr>
<tr>
<td>STOCK Colloidal Iron</td>
<td>20 ml</td>
</tr>
</tbody>
</table>

Prepare just before use; mix thoroughly.

**WORKING Iron Stain**

<table>
<thead>
<tr>
<th>Component</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>3% Potassium Ferrocyanide</td>
<td>20 ml</td>
</tr>
<tr>
<td>3% Hydrochloric Acid</td>
<td>20 ml</td>
</tr>
</tbody>
</table>

Prepare just before use; mix thoroughly.

**SOLUTIONS: Small Amount**

**WORKING Colloidal Iron**

<table>
<thead>
<tr>
<th>Component</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>DH₂O</td>
<td>3 ml</td>
</tr>
<tr>
<td>Conc. Glacial Acetic Acid</td>
<td>1 ml</td>
</tr>
<tr>
<td>STOCK Colloidal Iron</td>
<td>4 ml</td>
</tr>
</tbody>
</table>

Prepare just before use; mix thoroughly.

**INSTRUMENTATION OR EQUIPMENT:** Automated H&E stainer, Light Microscope

**Form Name & Number or Attachment Name** (If Applicable):

er04  

**Author Position:**
Lead Histologist

**Review/Revision Authority** (Position Not Individual Name):
Lead Histologist

**Expert Consultant Position/s** (Not Individual Name/s):
N/A

**References** (Required for Clinical Documents):

**Is there a Regulatory Requirement?** Yes ☐ No ☐

If yes, insert requirement information here:

**Review History** (No Changes):
N/A

**Revision History** (Note changes in area under header):
N/A

**Computer Search Words:**
N/A

**Policy, Procedure or Protocol Cross Reference Information:**