Hematoxylin Stain, Harris Modified - Technical Memo

<table>
<thead>
<tr>
<th>STAIN SOLUTION</th>
<th>Part 1201A</th>
<th>Part 1201B</th>
<th>Part 1201C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hematoxylin Stain, Harris Modified</td>
<td>500ml</td>
<td>1 Liter</td>
<td>1 Gallon</td>
</tr>
</tbody>
</table>

Additionally Needed For H&E Staining:
- Hematoxylin and Eosin (H&E) Control Slides
- Xylene, ACS
- Alcohol, Ethyl Denatured, 100%
- Alcohol, Ethyl Denatured, 95%
- Acid Alcohol 1%
- Lithium Carbonate, Saturated Aqueous
- Alcohol, Ethyl Denatured, 70%
- Eosin Y Working Solution

APPLICATION:
Newcomer Supply Hematoxylin Stain, Harris Modified is a ready to use high quality regressive hematoxylin that does not require filtering, is completely mercury-free and can be used in either manual or automated staining platforms. This modified Harris formulation contains glacial acetic acid for more precise and selective nuclear staining and ethylene glycol to increase solution stability and reduce surface precipitate.

The routine hematoxylin and eosin (H&E) stain is used for screening specimens in anatomic pathology, as well as for research, smears, touch preps and other applications. Its two primary coloring agents stain all cellular material including nuclei (blue), and cytoplasmic elements (pink-red). Popularity of this stain is due to its simplicity, ability to clearly demonstrate a wide variety of different tissue components, dependability, repeatability, and speed of use.

Quality Control: Since hematoxylin and eosin staining is the foundation of the diagnostic process, maintaining quality is of critical importance. Change staining solutions on a regular basis according to laboratory protocol. Procedures will vary between laboratories depending upon volume of slides, automation vs manual staining, chemical hygiene and solution integrity. The longevity of hematoxylin depends upon these factors and stain quality should be regularly screened with the use of an H&E control slide.

METHOD:

Fixation: Formalin 10%, Phosphate Buffered (Part 1090)

Preparation: Paraffin sections cut at 5 microns

Solutions: All solutions are manufactured by Newcomer Supply, Inc.

H&E STAINING PROCEDURE WITH HARRIS MODIFIED:

1. Deparaffinize sections thoroughly in three changes of xylene, 3 minutes each. Hydrate through two changes each of 100% and 95% ethyl alcohols, 10 dips each. Wash well with distilled water.
   a. **See Procedure Notes #1 and #2.**
2. Stain with Hematoxylin Stain, Harris Modified. 1 to 5 minutes, depending on preference of nuclear stain intensity.
3. Wash well in three changes of tap water.
4. Differentiate quickly in Acid Alcohol 1%
   a. **See Procedure Note #3.**
5. Rinse immediately in three changes of tap water.
6. Blue slides in Lithium Carbonate, Saturated Aqueous (12215) or Scott Tap Water Substitute (1380) for 10 dips.
7. Wash in three changes of tap water; rinse in distilled water.
8. Drain excess water from rack/slides; proceed to 70% alcohol for 10 dips.
9. Counterstain in Eosin Y Working Solution (1072) or prepared Eosin-Phloxine Working Solution (1082) for 30 seconds to 3 minutes, depending on preference of intensity.
10. Dehydrate in two changes of 95% ethyl alcohol for 1 minute each and two changes of 100% ethyl alcohol, 10 dips each. Clear in three changes of xylene, 10 dips each; coverslip with compatible mounting medium.

RESULTS:
- Nuclei: Bright pink to red
- Erythrocytes and eosinophilic granules: Bright pink to red
- Cytoplasm and other tissue elements: Various shades of pink

PROCEDURE NOTES:

1. Drain staining rack/slides after each step to prevent solution carry over.
2. Do not allow sections to dry out at any point during staining procedure.
3. Differentiate for a length of time to suit preference of nuclear stain intensity. Check slides microscopically to assure hematoxylin intensity is satisfactory. Nuclei should be distinct and the background very light to colorless.
4. To minimize oxidation and extend shelf life, store hematoxylin at room temperature in tightly capped container away from direct light.
5. If using a xylene substitute, closely follow the manufacturer’s recommendations for deparaffinization and clearing steps.

REFERENCES:

4. Modifications developed by Newcomer Supply Laboratory.

SUPPORT/WARRANTY: For assistance regarding this product contact Newcomer Supply at 800-383-7799 or info@newcomersupply.com. The information presented in this technical memo is to the best of our knowledge accurate. No warranty is expressed or implied. The user is responsible for determining the suitability of this product for their use and upon receipt assumes all liability for its use and responsibility for compliance with any laws or regulations. Please refer to www.newcomersupply.com for complete warranty information. © Newcomer Supply, Inc., 2017