**Phosphotungstic Acid Hematoxylin (PTAH) Control Slides – Technical Memo**

**CONTROL SLIDES:**
- Part 4565A: 10 Slide/Set
- Part 4565B: 98 Slide/Set

**PRODUCT SPECIFICATIONS:**
- **Tissue:** Positive staining striated muscle.
- **Fixation:** Formalin 10%, Phosphate Buffered (Part 1090).
- **Section/Glass:** Paraffin sections cut at 4 microns on Superfrost™ Plus slides.
- **Quality Control Stain:** PTAH quality control stained slide(s) included.
- **Reactivity:** Guaranteed product specific reactivity for one year from date of receipt. Revalidate after one year to verify continued reactivity.
- **Storage:** 15-30°C in a light deprived and humidity controlled environment.

**PRODUCT DESCRIPTION:**
The enclosed positive control slides are intended to verify histological techniques and reagent reactivity. The intended use is for the qualitative purpose of determining positive or negative results, and not intended for any quantitative purpose. These positive control slides are produced from human surgical or autopsy tissues under carefully controlled conditions. Quality control measures are used to deliver control slides that are as consistent as possible.

**CONTROL SLIDE VALIDATION:**

**With Phosphotungstic Acid Hematoxylin (PTAH) Stain Kit:**

<table>
<thead>
<tr>
<th>Solution</th>
<th>Concentration</th>
<th>Volumes</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: Zenker Fixative, Modified, Zinc Chloride</td>
<td>250 ml</td>
<td>Part 1461</td>
</tr>
<tr>
<td>B: Acetic Acid, Glacial, ACS</td>
<td>25 ml</td>
<td>Part 10010</td>
</tr>
<tr>
<td>C: Potassium Permanganate 0.25%, Aqueous</td>
<td>250 ml</td>
<td>Part 133931</td>
</tr>
<tr>
<td>D: Oxalic Acid 5%, Aqueous</td>
<td>250 ml</td>
<td>Part 1293</td>
</tr>
<tr>
<td>E: Phosphotungstic Acid Hematoxylin (PTAH) Stain, Modified Mallory</td>
<td>250 ml</td>
<td>Part 1334</td>
</tr>
</tbody>
</table>

**APPLICATION:**
The Newcomer Supply Phosphotungstic Acid Hematoxylin (PTAH) Control Slides are for the positive histochemical demonstration of muscle striations and collagen in tissue sections.

**PRESTAINING PREPARATION:**
1. Heat dry sections in oven according to your laboratory protocol.
2. Prepare Zenker Fixative Working Solution; combine and mix well.
   - **Solution A:** Zenker Fixative, Modified, Zinc Chloride 38 ml
   - **Solution B:** Acetic Acid, Glacial, ACS 2 ml

**NEWCOMER SUPPLY VALIDATION PROCEDURE:**

3. 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 (page 2).
4. Fix slides in Zenker Fixative Working Solution (Step #2) at 56°C for 3 hours.
   - a. See Procedure Note #3 (page 2).
5. Microwave Modification: See Procedure Note #3 (page 2).
   - a. Place slides in a plastic Coplin jar containing prepared Zenker Fixative Working Solution and microwave for 5 minutes at 60°C.
6. Wash well in three changes of tap water; rinse in distilled water.
7. Place in Solution C: Potassium Permanganate 0.25%, Aqueous for 10 minutes.
8. Wash in three changes of tap water; rinse in distilled water.
9. Place in Solution D: Oxalic Acid 5%, Aqueous for 10 minutes.
10. Wash in three changes of tap water; rinse in distilled water.
11. Stain in Solution E: PTAH Stain, Modified Mallory for 12-24 hours at room temperature, or 2 hours at 56°C.
   - a. See Procedure Note #4 (page 2).
   - **Microwave Modification:**
     b. Place slides in a plastic Coplin jar containing Solution E: PTAH Stain, Modified Mallory and microwave for 7 minutes at 70°C.

**RESULTS:**
- Muscle striations, fibrin, keratin: Dark blue
- Collagen, cartilage, elastic fibers: Deep reddish brown
- Nuclei: Blue

**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., 2019
PROCEDURE NOTES:

1. Drain slides after each step to prevent solution carry over.
2. Do not allow sections to dry out at any point during procedure.
3. The suggested microwave procedure has been tested at Newcomer Supply. This procedure is a guideline and techniques should be developed for use in your laboratory.
4. Newcomer Supply PTAH Stain formula is twice as strong as the original Mallory formulation; adjust staining time according to preference of intensity. Suggested staining time at 37°C is 18 hours.
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.