

## Davidson Fixative – Technical Memo

**SOLUTION:** 1 Gallon  
Davidson Fixative Part 1045A

*For storage requirements and expiration date refer to individual bottle label.*

### **APPLICATION:**

Newcomer Supply Davidson Fixative is an alcohol-formalin-acetic acid based fixative with human, veterinary and research applications. This ready-to-use fixative (also known as Hartmann's Solution) is recommended for a variety of specimens, including eyes and testes, penetrates structures quickly, preserves morphological detail and immunohistochemical staining.

Tissues placed in Davidson Fixative turn white/opaque, enhancing the visibility and yield of lymph nodes in fatty breast, colon and radical dissections. Overnight fixation is recommended for large and/or fatty specimens and lymph node detection.

### **METHOD:**

#### **Fixation Recommendations:**

- Small Biopsies: Up to 24 hours.
- Mice Eyes: Up to 12 hours.
- Rat and Rabbit Eyes: Up to 24 hours.
- Large Eyes (human or animal): 48-72 hours.
- Mollusks: 24-48 hours.
- Lymph Nodes: Up to 24 hours. Small nodes (5 mm or less) should be halved. Dissect larger nodes so that no piece is thicker than 2-3 mm.

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

### **FIXATION PROCEDURE:**

1. Place tissue directly in Davidson Fixative after excision.
  - a. See Procedure Note #1.
2. Fix in Davidson Fixative for the recommended fixation time.
  - a. See Procedure Note #2.
3. Rinse Davidson fixed tissue in distilled water; 1-2 minutes.
4. Hold tissue in either Formalin 10%, Phosphate Buffered (Part 1090) or in 70% Ethyl Alcohol (Part 10844) prior to processing.

### **PROCEDURE NOTES:**

1. If initially received in Formalin 10%, Phosphate Buffered, rinse specimen in tap water prior to placing in Davidson Fixative.
2. Extended storage in Davidson Fixative may result in hard, brittle tissue. After recommended fixation time, transfer Davidson fixed tissue to 70% Ethyl Alcohol or Formalin 10%, Phosphate Buffered for storage.

### **REFERENCES:**

1. Eltoun, Isam, Jerry Fredenburgh, Russell Myers and William Grizzle. "Introduction to the Theory and Practice of Fixation of Tissues." *The Journal of Histotechnology* 24.3 (2001): 173-190.
2. Howard, Dorothy, Earl Lewis, Jane Keller and Cecilia Smith. *Histological Techniques for Marine Bivalve Mollusks and Crustaceans*. 2nd ed. Oxford, MD: NOAA, National Ocean Service, 2004. 60.
3. Kiernan, J. A. *Histological and Histochemical Methods: Theory and Practice*. 3rd ed. London, Ontario: Arnold, 2003. 28-29.
4. Latendresse, John R., Alan R. Warbritton, Henning Jonassen, and Dianne M. Creasy. "Fixation of Testes and Eyes Using a Modified Davidson's Fluid: Comparison with Bouin's Fluid and Conventional Davidson's Fluid." *Toxicologic Pathology* (2002): 524-33.
5. Modifications developed by Newcomer Supply Laboratory.