



## **2-2. Gomori's Aldehyde Fuchsin (Refs 2, 5)**

### **Staining Procedures For Plastic Embedded Tissue**

**Verified at the Applications Laboratory of the Biomedical Division, Sorvall Microtomes**

#### **SOLUTIONS:**

##### **Aldehyde Fuchsin Solution**

|         |                                   |
|---------|-----------------------------------|
| 1.0g    | Basic fuchsin                     |
| 200.0ml | Alcohol, 70%                      |
| 2.0ml   | Hydrochloric acid, concentrated   |
| 2.0ml   | Paraldehyde (trimer acetaldehyde) |

Let stand at room temperature for 1-2 days or until stain is deep purple in color. Staining solution is good for about 4 weeks at room temperature and for over 6 months in the refrigerator. Fresh solutions stain quicker than used ones.

##### **Lugol's Iodine**

|         |                  |
|---------|------------------|
| 1.0g    | Iodine           |
| 2.0g    | Potassium iodide |
| 100.0ml | Distilled water  |

##### **0.5% Sodium Bisulfite**

|         |                  |
|---------|------------------|
| 0.5g    | Sodium bisulfite |
| 100.0ml | Distilled water  |

##### **Heidenhain's Azan Method or Van Gieson Method**

See procedure 2-3 or 2-12, respectively.

##### **0.25% Metanil Yellow Solution**

|         |                     |
|---------|---------------------|
| 0.25g   | Metanil yellow      |
| 100.0ml | Distilled water     |
| 0.25ml  | Glacial acetic acid |

## STAINING PROCEDURE:

1. Treat all slides in Lugol's iodine for 10-60 minutes.
2. Bleach in sodium bisulfite for 30 seconds.
3. Rinse in distilled water for 2 minutes.
4. Dehydrate in 70% ethyl alcohol for 1 minute.
5. Stain in aldehyde fuchsin:
  - elastic fibers -- 5-10 minutes
  - islet beta cells -- 15-30 minutes
  - pituitary -- 30 minutes to 2 hours

NOTE: Periodically rinse in 70% ethyl alcohol and examine microscopically for best results.

6. Rinse in 2 changes of 70% ethyl alcohol.
7. Counterstain as desired with the Azan method (2-3), the Van Gieson method (2-12), or with metanil yellow for 5 minutes.
8. Rinse in distilled water.

Blow dry.

Mount.

## RESULTS:

Elastic fibers, mast cells, gastric chief cells, beta cells of pancreatic islets, certain adenohypophyseal basophils, some (but not all) kinds of mucin. Plastic background stain is intense, but should be regarded as only a superficial nuisance as it does not affect the tissue components.

**Warning:** Some of the chemicals used for the staining procedures given in this section may be hazardous if misused. For this reason, read and observe all warnings and cautions provided by the manufacturer for each chemical before proceeding with a staining procedure.

Note: In order to prevent sections from loosening from the slides during staining, all sections should be heat-fixed (60°C to 100°C) to the slides for a minimum of 2-5 minutes prior to staining, preferably at the time the sections are mounted on the slides.