

## **G-488 CAIN'S METHOD FOR MITOCHONDRIA**

**FIXATION:** Moller's (F-190)

**SECTIONS:** Paraffin @ 3 microns

### **PREPARATION OF ANILINE-ACID FUCHSIN SOLUTION:**

Shake 1 ml of **Aniline** (G-488-1) with 20ml of distilled water for 2-3 minutes, let stand and shake again at several intervals over a 24 hour period. Filter and add 4.0 gm of **Acid Fuchsin** (G-488-2) to the filtrate. Shake at intervals over several hours. Filter and use the same day it is made.

### **STAINING:**

1. Deparaffinize and hydrate to distilled water.
2. Heat Aniline-Acid Fuchsin solution to steaming, remove from heat and immediately place slides in it for 5 – 10 minutes.
3. Differentiate in **Sodium Carbonate, 0.1%** (G-488-4) until cytoplasm is pale pink.
4. Dip briefly in **Hydrochloric Acid, 1%** (G-488-5) to halt differentiation and heighten color. Rinse well in distilled water.
5. Counterstain for a few seconds in **Methyl Blue Solution, 0.5%** (G-488-3). Rinse in distilled water.
6. Dip briefly in **Hydrochloric Acid, 1%** (G-488-5). Rinse in distilled water.
7. Dehydrate in 95% alcohol, absolute alcohol, and clear in xylene, two changes each.
8. Mount with **Permout** (M-18).

### **Staining Results:**

<b><u>Mitochondria</u></b>	<b><u>Bright Red</u></b>
<b><u>Nuclei</u></b>	<b><u>Blue to green</u></b>

### **References:**

Cain, A.J., Quart. J. Micr.Sci., 89:229-231, 1948

Luna, L.G., (ed.), Manual of Histologic Staining Methods of the AFIP  
3<sup>rd</sup> editor, McGraw-hill, N.Y., p.129, c. 1968