

G-450, Mallory-Heidenhain Azan-Gomori's Modification for Islet Cells

Fixation: Bouin's or Helly's

Section: Paraffin, 3-5 microns

Staining:

1. Deparaffinize and hydrate to distilled water as usual.

NOTE

If the tissue had been fixed on neutral formalin mordant in Bouin's

Place 50 ml Bouin's solution into a plastic coplin jar, Microwave for 30 seconds to bring the temperature to 60°C Mordant the slides in the heated solution for 10 minute.

2. Wash in running water to remove all picric acid.
3. Stain in **Azocarmine G 0.1%**, (G-450-1) 60 Min. Perform in a covered petri dish at 56°C. Rinse and blot dry carefully. (NOTE: Azocarmine G has been restricted in use as a carcinogen and not recommended; Azocarmine B may possibly be substituted depending upon material to be stained.)
4. Differentiate in the **Aniline-Alcohol, 1%** (G-450-2) according to fixation and species used. Check periodically under a microscope until the beta cells are stained either orangy red with human tissue or red with guinea pig tissue. The beta cells should appear red against the pinkish alpha cells with colorless parenchyma (acinar).
5. Rinse in distilled water.
6. Transfer to **Iron Alum Solution** (G-450-3) for 5 minutes or more- rinse in distilled water.
7. Stain in **Aniline Blue-Orange G** (G-450-4) for 2 to 20 minutes under microscopic control. Rinse briefly and blot carefully.
8. Differentiate in absolute alcohol and dehydrate completely. (NOTE: if the orange color fades too much in this step, re-stain the slide in **Orange G, 0.2 %**(G-450-5) saturated alcohol, and rewash and re-dehydrate with clean absolute alcohol.)
9. Clear with xylene, two changes each.
10. Mount.

Stain Results: (**Bouin Fixation**)

Alpha granules
Beta granules
D-cell granules
Elastic fibers

Human Tissue

Red, bright
Orange-Brown, dull
Dark Blue
Dark Blue

Guinea Pig

Orange—Tan
Red, fiery
Deep Blue
Dark Blue

REFERENCES:

Clark, G, and ed.: Staining Procedures 3rd. ed.; Baltimore: Williams and Wilkins Co., c. 1973, p171
Gomori. G: "Studies on the cells of the pancreatic islets.' Anat Rec. Rec. 74: 439 (1939).

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Rat tissue: Should be almost like human tissue. Alpha-red, Beta- light brown I did not see any d-cell; but it is because the cut of the tissue I have is not that great. Connective tissue- Blue.
Parenchyma (acinar) Brown-orange



