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B-172 MYELOPEROXIDASE STAIN USING 4-CHLORO-1-NAPHTHOL

FIXATION: Streak thin (approx. one cell thick) smears from fresh non-anticoagulated blood across a sterile slide by means of a second slide or cover glass. Fix in 10% Formal-Alcohol for 60 seconds.

PREPARATION OF WORKING SOLUTIONS:

A. 4-Chloro-1-Naphthol Working Solution
Just before use mix:
1. **4-Chloro-1-Naphthol Stock Solution** (B-172-1) 2ml
2. **Tris Buffer, pH 7.4** (B-172-2) 38ml
3. **Hydrogen Peroxide, 0.15%** (see below) 1ml

B. Hydrogen Peroxide, 0.15%
Dilute 1ml of **Hydrogen Peroxide, 3%** (B-172-3A), to 20ml (qs.) with distilled water and mix well. Prepare fresh before use.

STAINING PROCEDURE:

1. Wash slides with gently running tap water for 15 seconds and shake off excess.
2. Incubate the smears in 4-Chloro-1-Naththol Working Solution (see directions above) for 8-10 minutes at room temperature.
3. Wash the smears with distilled water.
4. OPTIONAL. Counterstain for 1 to 3 minutes with **Methyl Green, 1% Aqueous** (B-172-4) or use a **Wright-Giemsa** or **Giemsa Method** (such as B-153).
5. Rinse the smears rapidly with cold distilled water and blot dry.

RESULTS:

Myeloblast and Neutrophil Cytoplasm…….blue-black granules

The negative unstained image of the nucleus is easily discerned, monocytes are moderately stained but all other formed elements of the blood in both bone-marrow and peripheral blood films do not stain for myeloperoxidase.

REFERENCES:

Elias, J. M., American Journal of Clinical Pathology, Vol. 73, No. 6, June 1980
Omri M. B., State University of New York, 3.0-006