

**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:

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| 1. <u>4-Chloro-1-Naphthol Stock Solution</u> (B-172-1) | 2ml |
| 2. <u>Tris Buffer, pH 7.4</u> (B-172-2) | 38ml |
| 3. <u>Hydrogen Peroxide, 0.15%</u> (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-Naphthol 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