DANVERS INDUSTRIAL PARK 10 ELECTRONICS AVENUE, DANVERS MA 01923 TEL: 978-739-4883 FAX: 978-739-5640 www.rowleybio.com

B-172 <u>MYELOPEROXIDASE STAIN USING</u> <u>4-CHLORO-1-NAPHTHOL</u>

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. <u>4-Chloro-1-Naphthol Stock Solution</u> (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 <u>Hydrogen Peroxide, 3%</u> (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 <u>4-Chloro-1-Naththol Working Solution</u> (see directions above) for 8-10 minutes at room temperature.
- 3. Wash the smears with distilled water.
- 4. <u>OPTIONAL</u>. Counterstain for 1 to 3 minutes with <u>Methyl Green, 1% Aqueous</u> (B-172-4) or use a <u>Wright-Giemsa</u> or <u>Giemsa Method</u> (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., <u>American Journal of Clinical Pathology</u>, Vol. 73, No. 6, June 1980 Omri M. B., State University of New York, 3.0-006