**Wright's Stain**

**Intended Use:**
Wright's Stain is used as staining solution for blood films.

**Composition**

### Ingredients

(a) Wright stain
- 1.00 gm
- Glycerol 50.00 ml
- Methanol, absolute 50.00 ml

(b) Stock stain solution
- Acetone 4.00 ml
- Phosphate buffer (1/15M, pH 6.5) 3.00 ml
- Distilled water 2.00 ml
- Both (a) and (b) are mixed in coplin jar.

### Phosphate buffer (1/15M, pH 6.5)
- Potassium dihydrogen phosphate, anhydrous 0.663 gm
- Disodium phosphate, anhydrous 0.256 gm
- Distilled water 100.00 ml

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### Directions

1) Prepare air dried blood film.
2) Apply the stain (S030) for 3 minutes (fixation), covering the slide completely.
3) Gently add buffer of the same quantity as the stain, and mix by blowing gently on the surface. Leave for 5 minutes.
4) Keep slides horizontal and wash well with neutral distilled water.
5) Dry by blotting and observe under the microscope.

### Principle and Interpretation

The polychromatic staining solutions such as Wright stain contain methylene blue and eosin. These basic and acidic dyes induce multiple colours when applied to cells. Methanol acts as fixative and also as solvent. The fixative does not allow any further change in the cells and makes them adhere to the glass slide. The basic component of white cells (i.e. cytoplasm) is stained by acidic dye and they are described as eosinophilic or acidophilic. The acidic components (e.g. nucleus with nucleic acid) take blue to purple shades of the basic dyes and they are called basophilic. The neutral components of the cell are stained by both the dyes.

### Type of specimen

Clinical samples: Blood sample

### Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines(1,2).

After use, contaminated materials must be sterilized by autoclaving before discarding.

### Warning and Precautions

In Vitro diagnostic use only. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

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Please refer disclaimer Overleaf.
Limitations
1) To preserve morphology of cells, films must be fixed without delay and the films should never be left unfixed for more than a few hours.
2) Methanol used as fixative should be completely water free. As little as 1% water may affect the appearance of the films and a higher water content causes gross changes.
3) The red cells will also be affected by traces of detergent on inadequately washed slides.
4) Sometimes when thick films are stained they become overlaid by a residue of stain or spoil by the envelopes of the lysed red cells.

Performance and Evaluation
Performance of the stain is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control
Appearance
Ink blue coloured solution
Clarity
Clear without any particles.

Microscopic Examination
Blood staining is carried out and staining characteristics are observed under microscope by using oil immersion lens.

Results
Erythrocytes : Yellowish red
Polymorphonuclears : Dark purple nucleus, reddish lilac granules, pale pink cytoplasm
Eosinophiles : Blue nuclei, red to orange red granules, blue cytoplasm
Basophiles : Purple to dark blue nucleus, dark purple granules
Lymphocytes : Dark purple nuclei, sky blue cytoplasm
Platelets : Violet to purple granules

Storage and Shelf Life
Store between 10 - 30°C in tightly closed container and away from bright light. Use before expiry date on label. On opening, product should be properly stored in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use.

Disposal
User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (3,4).

Reference
5. Staining Procedures; Fourth Edition; Williams & Wilkins; Baltimore

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Disclaimer:

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory, diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.