Giemsa's Stain

S011

Intended use

Giemsa's Stain is used for blood staining and other purposes.

Composition**

Ingredients

Azur II eosin	3.0 gm
Azur II	0.8 gm
Glycerine	125.0 ml
Methanol, absolute	375.0 ml

**Formula adjusted, standardized to suit performance parameters

Directions

1. Treat the dried blood film with methanol for 3-5 minutes.
2. Immerse the slide in the staining fluid containing 30 drops (0.67 ml) of Giemsa Stain (S011) in 30 ml distilled water and stain it for 30-40 minutes.
3. Wash with distilled water allowing the preparation to differentiate for 1 to 3 minutes.
4. Dry the film in air and examine.

Principle And Interpretation

The polychromatic staining solutions (Giemsa, Wright) 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: peripheral blood smears and bone marrow

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines.
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.

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 medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature

Quality Control

- **Appearance :** Dark blue coloured, clear solution.
- **Microscopic examination :** After staining as specified under directions, cells were observed under microscope.
- **Results :** Nuclei: Blue

  Basophilic cytoplasmic components: Blue

  Neutrophilic granules: Lilac

  Eosinophilic granules: Orange

  Mastcell granules: Deep blue -violet

  Nucleoli: Blue-violet

  Red cells: Pink

  Cytoplasm of mature monocytes: Grey blue

Storage and Shelf Life

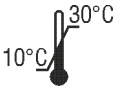
Store between 10-30°C in tightly closed container and away from bright light. Use before expiry date on label. On opening, product should be properly stored in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use.

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

Reference

1. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.
2. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
3. Jorgensen, J.H., Pfaller , M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
4. Shanhooltzer, C.J., P. Schaper ,and L.R. Peterson. 1982. Concentrated Gram stain smear prepared with a cytospin centrifuge. J. clin. Microbiol.16:1052-1056



Storage temperature

Do not use if package is damaged

IVD

In vitro diagnostic medical device

CE Marking

HiMedia Laboratories Pvt. Limited,
C-40, Road No.21Y, MIDC, Wagle
Industrial Area, Thane (W) - 400604,
MS, India

EC REP

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