SIGMA-ALDRICH®

GIEMSA STAIN
(Procedure No. GS-10)

INTENDED USE

Giemsa and May Grünwald solutions are intended for use in staining blood films or bone marrow films. Solutions are for "In Vitro Diagnostic Use."

Giemsa stain is a buffered thiazine-eosinate solution designed to provide coloration of blood cells similar to the original product described by Giemsa. It may be used separately or in combination with a May Grünwald Stain, also available from Sigma-Aldrich.

REAGENT

GIEMSA STAIN Catalog No. GS
(GS500-500ml; GS1L-1L; GS80-2.5L; GS128-4L)
Giemsa Stain, modified, 0.4% w/v, in a buffered methanol solution, pH 6.9, with stabilizers.

SPECIAL MATERIALS REQUIRED BUT NOT PROVIDED:

MAY-GRÜNWALD STAIN, Catalog No. MG
(MG500-500ml; MG1L-1L; MG80-2.5L; MG128-4L)
May-Grünwald Stain, 0.25% w/v, in methanol.

PHOSPHATE BUFFER pH 7.2 at 25˚C, Catalog No. P3288-1vl or P3288-12vl
A mixture of sodium phosphate and potassium phosphate, 0.0083 M/L, pH 7.2

Microscope / Slides / Coverslips / Staining dishes

STORAGE AND STABILITY:

Store Giemsa and May-Grünwald solutions at room temperature (18-26˚C). Reagent label bears expiration date.

Store Phosphate Buffer at room temperature (18-26˚C).

DETERIORATION:

Discard Giemsa and May-Grünwald solutions if a precipitate develops.

Discard the Working Phosphate Buffer if turbidity or visible bacterial growth is present.

PREPARATION:

Giemsa and May-Grünwald solutions are supplied ready to use, although the Giemsa solution may be diluted 1:20 before use in either deionized water or in phosphate buffer solutions.

Prepare Working Phosphate Buffer by diluting contents of one vial Phosphate Buffer pH 7.2 at 25°C to 3.8 liters or 1 gallon with water. Mix well to dissolve..

PRECAUTIONS:

Normal precautions exercised in handling laboratory reagents should be followed. Dispose of waste observing all local, state, provincial or national regulations. Refer to Material Safety Data Sheet and product labeling for any updated risk, hazard or safety information.

PROCEDURE

SPECIMEN COLLECTION

It is recommended that specimen collection be carried out in accordance with CLSI document M29-A3. No known test method can offer complete assurance that blood samples or tissue will not transmit infection. Therefore, all blood derivatives or tissue specimens should be considered potentially infectious.

Fresh whole blood films, bone marrow films, or specimens anticoagulated in EDTA should be used.

NOTES:

1. The staining procedures listed in this insert have given satisfactory results in our laboratory. Individual color preferences may necessitate slight adjustments to the times utilized.
2. Positive control slides should be included in each run.
3. The data obtained from this procedure serves only as an aid to diagnosis and should be reviewed in conjunction with other clinical diagnostic tests or information.

PROCEDURE:

Giemsa May-Grünwald

1. Dilute Giemsa Stain 1:20 with deionized water. For bluer coloration, water buffered at pH 7.2 may be used in place of deionized water.
2. Place slides in May-Grünwald Stain for 5 minutes.
3. Place slides in Working Phosphate Buffer or Trizma® Buffer (20-70 mmol/L). pH 7.2, for 1.5 minutes.
4. Place slides in dilute Giemsa solution from step 1 for 15-20 minutes.
5. Rinse slides BRIEFLY in DEIONIZED water.
6. Air dry and evaluate.

Standard Giemsa

1. Fix slides in methanol 5-7 minutes.
2. Air dry.
3. Dilute Giemsa Stain 1:20 with deionized water. Color can be varied by diluting in buffer.
4. Stain film for 15-60 minutes.
5. Rinse in deionized water.
6. Air dry and evaluate.

Quick Stain Giemsa

1. Place air dried blood film in undiluted Giemsa Stain for 1-2 minutes.
2. Place in deionized water for 2-4 minutes depending upon color preference.
3. Rinse in deionized water.
4. Air dry and evaluate.

PERFORMANCE CHARACTERISTICS

Nuclei will be varying shades of purple. Cytoplasmic staining will be varying shades of blue to light pink. Fine reddish to lilac granules may be present in cytoplasm of some cell types. Basophils will demonstrate dark blue black granules in the cytoplasm. Eosinophils will demonstrate bright orange granules in the cytoplasm. Red blood cells should be pink to orange.[1]

If observed results vary from expected results, please contact Sigma-Aldrich Technical Service for assistance.

REFERENCES

1. Hematology: Principles and Procedures, Sixth Edition, Brown AB, Lea & Febiger, Philadelphia 1993 p101

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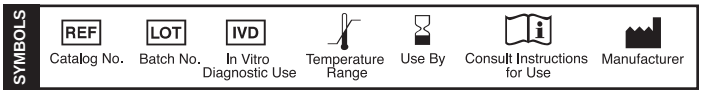

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