



Instructions For Use

SS1033-VO-IFU

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Giemsa Stain Kit (May-Grunwald)

(For Bone Marrow)

Description and Principle

The Giemsa Stain Kit (May-Grunwald) is intended for use in the visualization and differentiation of cells present in hematopoietic tissues. Giemsa Stain Kit is also used to demonstrate certain microorganisms.

Giemsa Stain Kit uses a combination of basic and acid dyes to give a Romanowsky-type of staining. Tissue elements carrying a negative charge are stained predominantly with the basic dyes, methylene blue and azure, whereas tissues carrying a positive charge are stained with the acid dye eosin. Reagent volumes provided can be used to perform an estimated 500 - 1000 tests.

Expected Results

Nuclei:	Blue/Violet
Cytoplasm:	Light Blue
Collagen:	Pale Pink
Muscle Fibers:	Pale Pink
Erythrocytes:	Gray, Yellow or Pink
<i>Rickettsia</i> :	Reddish-Purple
<i>Helicobacter pylori</i> :	Blue
Mast Cells:	Dark Blue with Red Granules

Kit Contents

Kit Contents	Storage
1. May-Grunwald Stock Solution	18-25°C
2. Giemsa Stock Solution	18-25°C
3. Phosphate Buffer Solution, pH 6.8	18-25°C

Suggested Controls (not provided)

Blood Film, Bone Marrow, Spleen, Any well fixed tissue.

Uses/Limitations

For In-Vitro Diagnostic use only.

Do not use past expiration date.

Use caution when handling reagents.

Non-Sterile

This procedure has not been optimized for frozen sections.

Frozen sections may require protocol modification.

Storage

Store kit and all components at room temperature (18-25°C).

Safety and Precautions

Please see current Safety Data Sheets (SDS) for this product and components GHS classification, pictograms, and full hazard/precautionary statements.

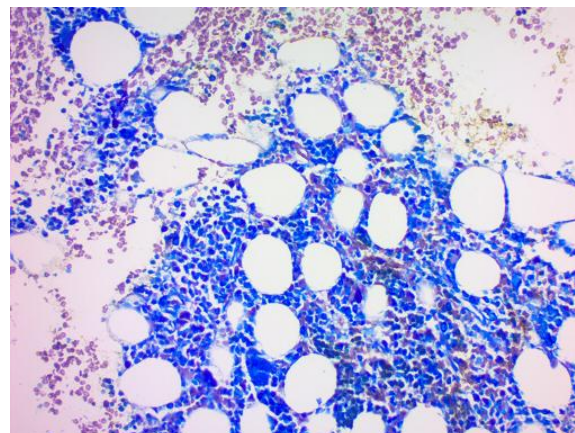
Procedure (Standard):

1. Deparaffinize sections if necessary and hydrate to distilled water.

Prepare Working May-Grunwald Solution by mixing equal parts May-Grunwald Stock Solution and Phosphate Buffer Solution, pH 6.8.

2. Flood slide with Working May-Grunwald Solution for 5-7 minutes. Note: Agitate slide occasionally to insure proper staining.

3. Carefully flood slide with Phosphate Buffer Solution, pH 6.8 until stain no longer runs off.



Bone Marrow stained with the Giemsa Stain Kit (May-Grunwald) (For Bone Marrow)

Prepare Working Giemsa Solution by mixing 50µl (1 drop) of Giemsa Stock Solution per 1ml of Phosphate Buffer Solution, pH 6.8. If staining a peripheral blood smear, instead mix 150µl (3 drops) of Giemsa Stock Solution per 1ml of Phosphate Buffer Solution, pH 6.8.

4. Flood slide with Working Giemsa Solution for 10-15 minutes. Note: Agitate slide occasionally to insure proper staining.

5. Carefully flood slide with Phosphate Buffer Solution, pH 6.8 until stain no longer runs off.

6. Allow slide to remain in Phosphate Buffer Solution, pH 6.8 for an additional 3 minutes.

7. Dip slide quickly in distilled water to remove buffer and air dry at room temperature.

8. Dip slide twice in Xylene or Xylene Substitute.

9. Mount in synthetic resin.

Procedure (Mast Cells):

1. Deparaffinize sections if necessary and hydrate to distilled water.

2. Flood with Working May-Grunwald Solution for 5-7 minutes. Note: Agitate slide occasionally to insure proper staining.

3. Carefully flood slide with Phosphate Buffer Solution, pH 6.8 until stain no longer runs off.

4. Flood slide with Working Giemsa Solution for 10-15 minutes. Note: Agitate slide occasionally to insure proper staining.

5. Carefully flood slide with Phosphate Buffer Solution, pH 6.8 until stain no longer runs off.

6. Differentiate by dipping slide in Acetic Acid Solution (0.25%) until background is desired intensity.

7. Dip slide for 10 seconds in Phosphate Buffer Solution, pH 6.8 while agitating gently.

8. Dip slide quickly in distilled water to remove buffer and air dry at room temperature.
9. Dip slide twice in Xylene or Xylene Substitute.
10. Mount in synthetic resin.

References

1. Sheehan, D., Hrapchak, B., Theory and Practice of Histotechnology: 2nd Edition, 1980, pages 155-156.
2. A.F.I.P. Laboratory Methods in Histotechnology; 1992, pages 111.
3. Laboratory Medicine: Vol. 25, No. 6, June 1994, page 389.
4. De Brauwer, E., Jacobs, J., Nieman, F., Bruggeman, C., Drent, M. Test Characteristics of Acridine Orange, Gram, and May-Grunwald-Giemsa Stains for Enumeration of Intracellular Organisms in Bronchoalveolar Lavage Fluid. *Journal of Clinical Microbiology*, 1999, 37(2): pages 427-429.
5. Amer, M., Abd Einasser, T., El Hagggar, S., Mostafa, T., Abdel-Malak, G., Zohdy, W. May-Grunwald-Giemsa stain for detection of spermatogenic cells in the ejaculate: a simple predictive parameter for successful testicular sperm retrieval. *Human Reproduction*, July 2001, 16(7): pages 1427-1432.
6. Ferro, D.P., Falconi, M.A., Adam, R.L., Ortega, M.M., Lima, C.P., de Souza, C.A., Lorand-Metze, I., Metzke, K. Fractal Characteristics of May-Grunwald-Giemsa Stained Chromatin Are Independent Prognostic Factors for Survival in Multiple Myeloma. 2011, *Plos ONE* 6(6): e20706. Doi:10.1371/journal.pone.0020706.