ScyTek LABORATORIES INC.

# Instructions For Use

GMG-IFU

205 South 600 West Logan, Utah 84323, U.S.A. – Tel. (800) 729-8350 – Tel. (435) 755-9848 – Fax (435) 755-0015 – www.scytek.com Rev. 6, 12/19/2022

## 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.

### Expected Results

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

| 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.

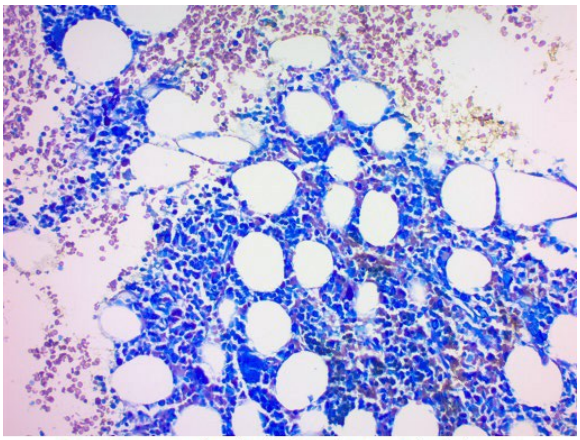
### Procedure (Standard):

1. Deparaffinize sections if necessary and hydrate to distilled water. For blood smears fix in methanol for 5 minutes before staining.

**Prepare Working May-Grunwald Solution by mixing equal parts (1:1) 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)

**When staining tissue samples prepare Working Giemsa Solution by mixing 60µl (~2 drops) of Giemsa Stock Solution per 1ml of Phosphate Buffer Solution, pH 6.8.**

**If staining a peripheral blood smear, instead mix 200µl (~6 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. Clear slide in Xylene or Xylene Substitute.

9. Mount in synthetic resin.

**Notes:**

1. Background in tissue sections may be differentiated by dipping slide in a solution of 0.25% Acetic Acid (not provided). This may allow for better visualization of mast cells.

2. The Working Solutions will immediately begin to precipitate once mixed, use immediately and do not re-use or store for later use.

## 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 Characterisics 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 Elnasser, T., El Haggar, 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., Metze, 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.

ScyTek Laboratories, Inc.
205 South 600 West
Logan, UT 84321
U.S.A.

CE IVD

EC REP

Emergo Europe
Westervoortsedijk 60
6827 AT Arnhem,The Netherlands