

## May Grunwald

### Intended Use

May Grunwald Stain is used for staining of blood, bone marrow smears and clinical cytological specimens.

### Principle

In hematology polychromatic Romanowsky dyes are a standard for blood smears and bone marrow staining. Various sorts of Romanowsky dyes (Giemsa, May-Grunwald, Leishman, Wright, Jenner) contain different ratios of methylene bluing reagent used as the cation component (and the reagent-related thiazine dyes, such as azure B) and eosin Y as the anion component. Cation and anion components interaction creates a well-known Romanowsky effect that cannot be achieved if each component is being used individually. Purple color indicates the effect's presence. Staining intensity depends on the azure B content, as well as azure B to eosin Y ratio, while a few other factors affect the result of staining: working solution pH value and buffer solution, fixation method and dye exposure time. May-Grunwald solution is used for staining bone marrow and peripheral blood smear; for staining lymphocytes, monocytes, granulocytes (neutrophils, eosinophils and basophils), thrombocytes and erythrocytes. The May-Grunwald solution is used in cytology to stain cyto-diagnostic puncture aspirates, cells from diarrhea and secretion. One of the well-known methods that use the May-Grunwald solution is in combination with the Giemsa solution in the May-Grunwald Giemsa, or Pappenheim method.

### Reagents / Contents

#### May Grunwald

Eosin Y	1.0 g
Methylene blue	1.0 g
Methanol	100 mL

\*\*Formula adjusted, standardized to suit performance parameters

### Appearance:

May Grunwald: Dark Blue colour solution.

### Storage and Stability

Store at 15°C - 30°C away from bright light. Use before expiry date on label.

### Type of Specimen

Clinical specimen: Blood, bone marrow smears and clinical cytological specimens.

### Materials required but not provided

Clean grease-free glass slide, staining rack, blotting paper, immersion oil (Cat. No. 207090110025), Giemsa stain (Cat. No. 207070210100) and microscope.

### Procedure

1. Prepare thin smear of blood sample and air dry.
2. Fix smears for 3 minutes with methanol or with Heme fixative.
3. Stain the smear in May Grunwald stain diluted with an equal volume of distilled water for 5 minutes.
3. Put the smears without washing in 1:3 solution of Giemsa stain diluted with distilled water for 8-10 minutes.
4. Wash the smears in distilled water and let them dry.
5. Observe under microscope, 40X and 100X under oil immersion lens.

### Interpretation of Results

Erythrocytes:	Pink
Lymphocytes:	Blue cytoplasm with blue violet nucleus
Eosinophil:	Blue violet
Eosinophilic Granules:	Deep red
Neutrophil:	Deep blue to blue violet
Neutrophil granules:	Red
Basophil:	Blue violet nucleus

**Warranty**

This product is designed to perform as described on the label and pack insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

**Reference**

Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

**Product Presentation:**

<b>Cat No.</b>	<b>Product</b>	<b>Pack Size</b>
207131020250	May Grunwald	250 mL
207131020500		500 mL
207131700125	May Grunwald-Giemsa (MGG) Stain Kit	2 x 125 mL
207131700250		2 x 250 mL

**Disclaimer**

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.

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