

MAY - GRUNWALD GIEMSA
for smears
04 – 080802

IVD In-vitro diagnostic medical device **CE**

CND Code: W0103010301

number of tests 50 assays (100 ml each)
 procedure time 35 minutes
 product validity 2 years
 storage temperature 15-25 °C
 complementary equipment volumetric flask 1000 ml, graduated cylinder 100 ml, Coplin Jar 100 ml

Expected aim Product for the preparation of cyto-histological samples for optical microscopy.

Application Recommended method to differentiate cell types and to reveal parasites in blood smears, morphologic details in spleen tissue, lymph node tissue and marrow, to demonstrate bacteria, rickettsias and mast-cells granulation in sputum and organic aspirates. Particularly recommended to detect Trichomonas in vaginal smears.

Principle Two dyes are used one after the other:
 1) May Grunwald solution, consisting of eosin-methylene blue, stains nuclei blue and basophil cytoplasm pinkish red.
 2) Giemsa solution, a complex consisting of methylene blue chloride, eosin-methylene blue and azure II eosinate, improves the intensity of nuclear staining and the capacity to show selectively cellular structures.
 To appreciate results always remember 2 factors: pH of washing water and dilution buffer have a strong influence on final colour chart; intensity of stain may vary according to differentiation time.

Method

- 1) In a volumetric flask 1000 ml, put 100 ml of reagent B (buffer - concentrated solution) and reach the volume with running tap water (buffer - working solution). Keep buffer solutions at 4-6 °C.
- 2) Put 10 drops of reagent A on the slide: leave to act 5 minutes. N.B. Step 2 may be effected in a Coplin Jar without modifying working times. In this case, reagent should be kept for further use.
- 3) Wash in running tap water for 1 minute.
- 4) Add 10 ml of reagent C in a cylinder with 90 ml of buffer solution B (working solution), pour the obtained solution in a Coplin jar and immerse the slide for 15 minutes.
- 5) Wash in running tap water for 1 or 2 minutes.
- 6) Dry the slide with filter paper then in the air for 5 minutes.

Results

Nuclei	Red-violet, pink
Basophil cytoplasm	From pale blue to dark blue
Acidophil cytoplasm	From pale red to pink
Polychromatofilic cytoplasm	From grey to violet
Acidophil granules	Orange
Neutrophil granules	Brown-dark pink
Basophil granules	Dark violet
Azurophil granules	From purple to purplish violet

Reagents

A) May Grunwald staining solution.....	500 ml
B) Phosphate buffer solution 10x	500 ml
C) Giemsa staining solution.....	500 ml

Warning and precaution

The product must be used exclusively by specialized technical operators.
The product is classified as hazardous.
Read with attention the information written on the label (dangerous symbols, risks and safety phrases).
Consult always the safety data sheet where the information about the risks of the preparation, precautionary measures during use, first aid and disposal are available. Do not use if primary packaging is damaged.

Storage

Store the preparation at room temperature. Keep the containers tightly closed.

Stability

After the first opening, the product is usable until the expiry date, if correctly stored.

Disposal

Hazardous preparation: observe all state and local environmental regulations regarding waste disposal.

References

- Giemsa G.: Das Wasen der Giemsa-Farbung, Zentralb f Bakt 1922-1923; 89: 99-106.
- May R, Grunwald L. Uber die Farbung von Feutchpreparaten mit meiner Azur-Eosine methode Deutsche med Xschr 1909; 35:1751-1752.
- Lillie RD. Conn's Biological Stains. Williams & Wilkins Company; Baltimore. 9th ed. 1977

080802/L the kit is available with components in size of 1000 ml on request

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