DDK Italia

IVD dispositivo medico-diagnostico in vitro

CE

May-Grünwald Giemsa for tissue sections technical information
Technical card code 14-120-2
Product code 14-120-2
Number of test 100
Stability of product properly store at 15-24°C 24 month

Produce in Italy by
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in case of emergency UE number	☎	112
in case of emergency UK number	☎	999
en cas d'urgence Suisse	☎	145

Application

Recommended method to differentiate cell types and to reveal parasites in tissue sections. Especially useful for lymphohemopoietic tissue. This stain is often used to demonstrate endothelial reticulum.

Principle

Two dyes are used one after the other.
1) May Grünwald solution, consisting of eosin-methylene blue, stains nuclei blue and basophile 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) Deparaffinize section and bring to ethanol 70°
2) Preparation of buffer solution
In the enclosed capsule introduce 20 ml of distilled water; add 10 drops of concentrated solution (2)
This solution is called "buffer solution" in the method
3) Put on the section 10 drops of buffer solution (2): leave to act 2 minutes
4) Drain the slide and put 10 drops of reagent (1) and 5 drops of buffer solution (2): leave to act 5 minutes
5) Pipette 10 ml of buffer solution (2) and wash carefully the slide in this solution
6) Put in capsule 5 drops of reagent (3) and 10 drops of buffer solution (2), shake the solution and put it on the slide: leave to act 12 minutes
7) Differentiate in ethanol 95° 10 seconds
8) Absolute ethanol 30 seconds
9) Absolute ethanol 30 seconds
10) Clear in xylene
11) Mount with DdMount

Results

Nuclei	blue
Basophil cytoplasm	from pale blue to dark blue
Acidophil cytoplasm	pink
Bacteria	blue

Reagents

1 - May Grünwald solution	2x30 ml
2 - Concentrated buffer solution	30 ml
3 - Giemsa solution	2x30 ml

Bibliografia

Giemsa G.: *Das Wasen der Giemsa-Farbung*, Zentralb f Bakt 1922-1923; 89: 99-106. May R, Grunwald L. *Uber die Farbung von Feutchpraparaten mit meiner Azur-Eosine methode* Deutsche med Xschr 1909;

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* Notes.
Distilled water or tap water can be used for rinsing and moisturizing.
Always check the pH of your tap water and chlorine levels before proceeding with any type of biological tissue and stain. Technical's note: staining time vary according to age, types of solutions, thickness of sections, et. When Gill (code 09-178) modified solution is used, get the best result, staining time (maximum 1-5 minutes), for best change in color, wash quickly in tap water, and then in Scott acidulated solution, (code 00-136). For sections fixed in Bouin, we recommend the use of haematoxylin modified acid AB (code 09-183).

* Please note the alcoholic loses eosin stain with the use, of the days are stretched over time colouring. If you are using purified eosin, check the time, and possibly diluted in ethyl alcohol 96°C, if the cytoplasmic staining was too strong. Before use, filter the following solutions; alcoholic eosin, eosin phloxine; Harris haematoxylin, Gill's haematoxylin. The acidified aqueous solution of eosin is prepared by slowly adding glacial acetic acid. Follow normal precautions for laboratory reagents. Dispose of waste according to regulations at the local, regional or national level. Refer to Data Sheet Material Safety Data for updated information on risks, hazards and safety associated with the use of these products.

* Risk and Safety Statements outside the EU.
The eosin solution in alcohol is flammable and harmful. Harmful by inhalation, in contact with skin or if swallowed. Harmful: possible risk of irreversible effects through inhalation, in contact with the skin or by ingestion. Irritating to eyes, respiratory system and skin. Keep away from sources of ignition - No smoking. Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical attention immediately (show the label where possible). Target organs: eyes and nerves. Eosin in aqueous solution. Caution: substance not yet fully tested. Avoid contact and inhalation of the solution of Harris haematoxylin. Organs: heart and nerves. Solutions based hemallum are harmful. Harmful if swallowed. Irritating to eyes, respiratory system and skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical attention. Wear suitable protective clothing. Organs affected: liver and kidneys. In case of accident or if you feel unwell, seek medical attention immediately (show the label where possible).

* Risk and Safety Statements (U.E.)
The eosin solution in alcohol is highly flammable and harmful. Highly flammable. Harmful by inhalation, in contact with skin or if swallowed. Harmful: possible risk of irreversible effects through inhalation, in contact with the skin or by ingestion. Keep away from sources of ignition - No smoking. Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical attention immediately (show the label where possible). Eosin in aqueous solution. Caution. Substance not yet fully tested. Solution of hemallum. Do not breathe vapors. Avoid contact with skin and eyes. Gill haematoxylin Solutions are harmful. Harmful if swallowed. Irritating to eyes, respiratory system and skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical attention. Wear suitable protective clothing.

* Sample preparation
All samples must be treated according to the technology.
All samples must be marked so as to be easily identified. Tools should be used for sampling and sample preparation, which must be observed strictly to manufacturer's instructions about the application and instructions.

* Diagnostics
The diagnosis should be performed only by authorized and trained persons. Valid nomenclatures must be used. Further tests must be selected and implemented according to recognized methods. Conservation. The staining solution should be stored at a temperature between +15°C to 20°C, the dye at +5°C to 30° C. Store at 4-6 °C all kit containing silver solutions and Schiff reagents. The solution and dyes must be used before the expiration date. Stability. After first opening the bottle, the dye solution and the dyes are stable until the expiration date when stored at the temperature requested. Always keep the bottles tightly closed.

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* Instructions for use
To avoid errors, the staining process must be performed by qualified personnel. For professional use only. Must observe the National guidelines for work safety and quality assurance. Microscopes are used according to the standard. Protection against infection. Must be taken with laboratory guidelines for the protection against infection. Instructions for disposal. The solutions used and those have expired must be disposed of as special waste according to local regulations regarding disposal of waste.

Endnotes
1 The timing suggested in the leaflet are approximate and may vary according to your specific needs. If they are used intensively, for staining solutions may lose their dyes, so it is necessary to extend the time of staining solutions, or replace with new products.
2. Include positive control slides in each session.
3. Some hydraulic systems deliver acidic water, unsuitable for use for the part of the procedure for the blue coloration. If tap water is acidic, instead using a dilute alkaline solution, for example, water buffered by Scott.
4. The presence of purple or red-brown nuclei a blue color indicates unsatisfactory.
5. If you over-eosin staining, nuclear staining may be masked. If done correctly, with eosin staining shows a three-tone effect. To increase the differentiation of eosin, extend the time of immersion in alcohol, or use a first alcohol with a higher water content. You can adjust the times of immersion in alcohol to obtain an adequate eosin staining.
6. We do not recommend the addition of stock solution in the working solutions of haematoxylin and eosin.
7. Avoid excessive drag (carryover) of water solutions in alcoholic eosin.
8. The data generated by this procedure are to be used only to support the diagnosis and should be evaluated in conjunction with other tests and diagnostic data