2E-008

May-Grünwald solution, eosin-methylene blue
In-vitro diagnostic agent

Description

May-Grünwald solution, eosin methylene blue is a ready-to-use solution for professional use in cytology for staining specimen material.

The product comes in 6 different pack sizes: 2E-038.00100 (100ml bottle), 2E-038.00250 (250ml bottle), 2E-038.00500 (500ml bottle), 2E-038.01000 (1L bottle), 2E-038.02500 (2,5l bottle), and 2E-038.10000 (10l canister).

Main components

Methylene blue (C.I.52015)	0.7 g/l
Eosin (C.I.45380)	0.7g/l

Purpose

May-Grünwald staining is used for differential staining of blood and bone marrow smears, but also other cytological sample material. It can be used alone, but is very often used in combination with other stains, e.g. in combination with the Giemsa stain (May-Giemsa or Pappenheim stain).

Sample material and sample preparation

Samples may only be taken by qualified personnel. All samples must be processed with state-of-the-art technology. All samples must be clearly labelled.

Starting materials for staining are air-dried blood or bone marrow smears and other cytological sample materials such as smears, fine needle biopsies, rinsing fluids, sputum or urine.

Test principle

May-Grünwald solution contains the dyes eosin and methylene blue. The negatively charged, acidic eosin binds to positively charged, basic proteins, such as those found in haemoglobin or eosinophilic granulocytes. The positively charged, basic methylene blue binds to acidic structures, for example in nucleic acids or basophilic granulocytes. Neutrophil granulocytes, on the other hand, are only weakly stained with acidic or basic dyes. In this way, blood and bone marrow components can be differentiated.

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Komplementärin:
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Staining

Methylene blue forms a salt with eosin, methyleneosinate, which is poorly soluble in water, which is why methanol is used to produce the dye solution. Depending on the dilution of the methanol in the staining method used, air-dried samples may thus have to be fixed with methanol first.

The usual staining protocols known from literature must be used.

Staining may only be carried out by qualified personnel.

Result

Nuclei:	red-purple
Lymphocyte cytoplasm:	blue
Monocyte cytoplasm:	grey-blue
Neutrophil granulocytes:	red-purple
Eosinophil granulocytes:	red-brown
Basophil granulocytes:	blue-purple
Platelets:	purple
Erythrocytes:	reddish

Precautionary measures

When removing the product, care must be taken to avoid contamination of the storage vessel. Once the solution has been removed, it must not be returned to the canister. If turbidity or solids appear, discard the product. The product is intended for single use and must not be reused.

Storage and shelf life

Store the unopened containers in a dry place at 15 to 25 °C, avoiding direct sunlight.

The shelf life is 2 years. See also the best-before date (BBD) on the label. Once the containers have been opened, the shelf life corresponds to the best-before date, as long as the storage conditions are observed and the solution is handled properly.

Safety notice

If any serious incidents occur in connection with the product, please report them to the manufacturer and the national authority.

Literature

Romeis, Mikroskopische Technik, Editors: Maria Mulisch, Ulrich Welsch, 2010, Springer Spektrum, 18th edition

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