1A-174

Giemsa dye, for microscopy
In-vitro diagnostic agent

Description

The product 1A-174 is a dye for use in cytology. It is a dry dye for preparing a staining solution for professional users.

The product comes in 5 different pack sizes: 1A-174.00010 (10g bottle), 1A-174.00025 (25g bottle), 1A-174.00100 (100g canister) 1A-174.00500 (500g bottle) and 1A-174.01000 (1kg bucket)

Main components

Methylene blue (C.I.52015) + azure	58%
Eosin (C.I.45380)	42%

Purpose

Giemsa dye is used for the examination of haematological-cytological sample material such as whole blood and bone marrow smears. It is a dry dye for preparing a staining solution for professional users. It can be used for overview staining of cell and tissue components.

Sample material and sample preparation

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

Sample material: fresh, native blood or bone marrow smears, as well as clinical material from cytology such as urine sediment, sputum, smears from fine needle aspiration biopsies, rinsing fluids, imprints.

Test principle

In haematological diagnostics, Giemsa staining is often used in combination with other staining solutions, e.g. May-Grünwald solution as Pappenheim (MGG) overview staining. The staining of the cell nuclei is based on the molecular interaction between the eosin G dye and an azure B-DNA complex.

Staining

To prepare the dye solution, dissolve 0.76 g Giemsa dye in 50 ml glycerine 85% and heat in a water bath at 55–60 °C for 1.5 hours. Then add 50 ml methanol, let it stand for 24 hours and filter it.

The concentrated staining solution must be diluted 1:20 with buffer solution before use.

The slide with the air-dried smear is treated directly with the staining solution after exposure to methanol. After rinsing it in a buffer solution, allow it to air dry.

The samples can be covered with a synthetic covering medium for subsequent microscopy.

Waldeck GmbH & Co. KG
Havixbecker Str. 62
48161 Münster
Deutschland
Amtsgericht Münster
HRA 1926

Komplementärin:
Wahlig Beteiligungs- und
Verwaltungsgesellschaft mbH
Amtsgericht Münster
HRB 692

Geschäftsführer:
Wilhelm Wahlig
Ingo Gerdes

Bankverbindungen:
SPK Westmünsterland
IBAN:
DE49401545300036060184
BIC:
WELADE3WXXX

USt.-Id.-Nr.:
DE126046718
Steuer-Nr.:
5336/5779/0252
Gläubiger-ID:
DE67ZZZ00000021849

Kontakt:
Tel. +49 2534 970 0
Fax +49 2534 970 258
info@waldeck-ms.de
www.waldeck-ms.de

To ensure the differentiability of the target structures, suitable control specimens should be kept along with the staining.

The usual staining protocols known from literature must be used

Staining may only be carried out by qualified personnel.

Result

Nuclei:	(red) purple
Cytoplasm of lymphocytes:	blue
Cytoplasm of monocytes:	grey-blue
Neutrophil granules:	light purple
Eosinophil granules:	brick-red
Basophil granules:	dark purple
Platelets:	purple
Erythrocytes:	reddish to brownish

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 5 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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