



2E-010

Mayer's Haemalaun

In-vitro diagnostic agent

Description

The product 2E-010 is a ready-to-use solution for professional users for application in histology. It is an aqueous dye solution mixed with aluminium sulphate. The product comes in 6 different pack sizes: 2E-010.00100 (100ml bottle), 2E-010.00250 (250ml bottle), 2E-010.00500 (500ml bottle), 2E-010.01000 (1l bottle), 2E-010.05000 (5l canister). and 2E-010.10000 (10l canister).

Main components

Haematoxylin (C.I. 75290)	1.1 g/l
Aluminium sulphate ($\text{Al}_2(\text{SO}_4)_3 \times 18 \text{ H}_2\text{O}$)	50 g/l

Purpose

"Haemalaun, according to Mayer" is used for cell diagnostics for the examination of histological samples (e.g. histological sections). It is a ready-to-use dye solution for professional users. It can be used for the haematoxylin-eosin overview staining routinely used in histology.

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: Sections of human tissue (3–4 μm thickness) after fixation, for instance by buffered formol and fixation mixtures with ethanol and formalin and subsequent embedding in paraffin or frozen sections, as well as clinical material from cytology (urine sediment, sputum, smears from fine needle aspiration biopsies, irrigation fluids, imprints or effusions).

Test principle

First, the positively charged nuclear dye (haematoxylin) binds to the negatively charged phosphate groups of the nucleic acids of the cell nucleus and colours them dark blue to dark purple. Counterstaining is achieved with a negatively charged anionic xanthene dye (eosin G, eosin B or erythrosin B), which binds to the positively charged plasma proteins. Cytoplasm and intercellular substance turn pink to red, erythrocytes appear yellow-orange or red-orange.

Staining

Before staining, deparaffinise the sections and transfer them to distilled water via a descending ethanol series. After being stained with Mayer's Haemalaun solution, the samples are rinsed in hydrochloric acid solution (0.1%). After being washed under running tap water, the samples are counterstained with Eosin-G solution (0.5% aqueous or 0.5% alcoholic or 1% alcoholic) and washed once more under running deionised water. The samples are then transferred to xylene via an ascending ethanol series. The samples can be covered with a synthetic covering medium for subsequent examination under a microscope.



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

Cell nuclei	dark blue to dark purple
Cytoplasm, intercellular substances	pink to red
Erythrocytes	yellow to orange

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