HistoLab®
ESTABLISHED 1965

Mayer HTX

REF
01820
01820-EX

USE

Mayer HTX is a staining solution intended for the staining of histological and cytological tissue samples. The product is intended for use by trained personnel in laboratory environments.

Mayer HTX is a staining solution used to visualise the cell nucleus in histological and cytological tissue material. Full cellular details are obtained by counterstaining with the Eosin. Mayer HTX is used together with Eosin in the most common general staining – hematoxylin and eosin staining. Eosin stains the cytoplasm and other tissue elements in different shades of pink. Hematoxylin stains the nucleus purple; after blueing it turns blue, which provides a better contrast to the cytoplasmic stain. The intensity is determined by the staining time.

Mayer HTX is also used for contrast staining after immunohistochemistry.

Histological and cytological staining solutions are used to visualise different components in cells and tissues. Without staining, these are, in principle, transparent and difficult or impossible to distinguish under a microscope.

Hematoxylin is a natural dye that must be oxidised to haematein and be combined with a mordant to be able to stain the cell nucleus. The combination with oxidised haematoxylin and aluminium salt is one of the most useful stains for cell nuclei. Mayer HTX is chemically oxidised and ready to use and has aluminium salt as mordant.

Mayer HTX is a progressive staining solution, which means that it has a relatively low concentration of dye and selectively stains nuclear chromatin without staining cytoplasmic structures. The intensity of staining is determined by the staining time; staining stops when the desired intensity is reached.

After staining with Mayer HTX, the nucleus is purple. A blue colour provides better contrast to the cytoplasmic stains, which are often different shades of pink. The bluing is obtained when the sections are rinsed in tap water (or dipped in a weak alkaline solution). After bluing, the cell nuclei are clear and defined, while the background is colourless. Differentiation in hydrochloric spirit is performed first after bluing.

The Mayer HTX staining can be customised depending on the user, and the protocol can be modified to provide the desired intensity and specificity. Under- and over-staining can be corrected by adjusting the protocol. All adjustments to the protocol must be made by trained personnel.

SPECIFICATION

Composition

Aluminium sulphate 14H_2O	5–10 %
Ethanol	<6 %
Haematoxylin	<1 %

Properties

pH	2.4 ± 0.02

INSTRUCTIONS FOR USE

Storage and shelf life

Protect from direct sunlight. Store in a cool place. Store in tightly sealed original packaging. Store in a dry place.

The product has a shelf life of 18 months from the date of manufacture in unopened packaging. The expiry date is printed on the package label.

Warnings/precautions for safe handling

Classification and labelling information in accordance with Regulation (EC) No 1272/2008 (CLP) can be found on the product label and/or safety data sheet.

Wear protective gloves, as the product stains. Wear tight-fitting safety goggles or a face shield. Wear suitable protective clothing to protect against splashes or contamination. Avoid contact with skin and eyes. Ensure good ventilation.

Waste management

Present for destruction according to local regulations. See safety data sheet for more information.

Sample material

The different types of samples that can be analysed are all well-fixed tissue material, histologically, cytologically and immunohistochemically.

Cryosection, paraffin section or plastic section material can also be analysed.

Preparations

Note that adequate fixation and dehydration is important to achieve reliable results. Different types of clearing agents (e.g. Xylene or Histolab Clear) may affect the staining. Tissue type and thickness may also affect the result.

The solution does not need to be filtered.

Instructions

Example protocol for Mayer HTX – Eosin Y 0.2 %:

Slide with paraffin section	
Oven drying 60°	20–30 min
Histolab Clear (Xylene)	2–5 min
Histolab Clear (Xylene)	2–5 min
Histolab Clear (Xylene)	2–5 min
Absolute Ethanol	2–5 min
Absolute Ethanol	2–5 min
Ethanol 96 %	2–5 min
Ethanol 70 %	2–5 min
Water (dist.)	1–5 min
Mayer HTX	3–6 min
Water (tap)	4–6 min
Eosin Y 0.2 %	30 sec – 3 min
Water (tap)	30 sec
Ethanol 96 %	1 min
Absolute Ethanol	1 min
Absolute Ethanol	1 min
Histolab Clear (Xylene)	2 min
Histolab Clear (Xylene)	2 min
Mount with Pertex®	

Allow the slides to drip off thoroughly between each step to avoid transfer between solutions. Allow Histolab Clear to dry/evaporate slightly before mounting the cover slip with Pertex®. Mounting with Pertex® provides lasting stain, shape and structure in the tissue during long-term storage.

The protocol should be modified and validated by trained personnel according to the laboratories routines and preferences for best results.

Expected result, Mayer HTX – Eosin Y 0.2 %:

Nuclei – blue
Collagen – pink
Smooth muscle – pale pink
Keratin – pale pink
Fibrin – pale pink
Erythrocytes – red-orange

ADDITIONAL INFORMATION

Control slides should always be used.

Material needed for the protocol but not supplied:
Histolab Clear
Absolute Ethanol
Ethanol 96 %
Ethanol 70 %
Eosin Y 0.2 % staining solution
Pertex®
Slide
Cover slip

Use suitable equipment and reagents.

When staining in instruments, follow the instructions for use supplied with the instrument.

All serious incidents that have occurred in connection with the product must be reported to the manufacturer.

VERSION HISTORY

Latest changes:
Properties
Adjustments resulting from revised qualification, with reference to MDCG 2024-11 Guidance on qualification of in vitro diagnostic medical devices.

SOURCES

Theory and Practice of Histotechnology, second edition, Sheehan, Hrapchak
Histology – A Self Instructional Text, Carson
Theory and Practice of Histotechnology, 3rd edition, Bancroft, Stevens

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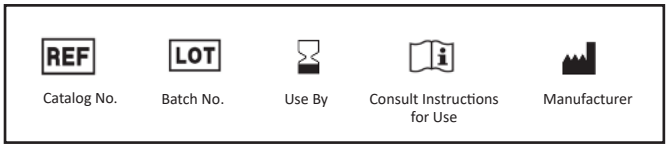

Histolab Products AB
Södra Långebergsgatan 36
SE-436 32 Askim, Sweden
P: +46 31 709 30 30
mail@histolab.se
www.histolab.se