

1.15973.0002

Microscopy

Weigert’s iron hematoxylin kit

for nuclear staining in histology

For professional use only

IVD

In Vitro Diagnostic Medical Device



Intended purpose

This “Weigert’s iron hematoxylin kit - for nuclear staining in histology” is used for human-medical cell diagnosis and serves the purpose of the histological investigation of sample material of human origin. It is a ready-to-use staining kit that when used together with other in vitro diagnostic products from our portfolio makes target structures evaluable for diagnostic purposes (by fixing, embedding, staining, counterstaining, mounting) in histological specimen materials, for example histological sections of e.g. the liver, the kidney, the intestine, the placenta and similar. Unstained structures are relatively low in contrast and are extremely difficult to distinguish under the light microscope. The images created using the staining solutions help the authorized and qualified investigator to better define the form and structure in such cases. Further examinations may be necessary to reach a definitive diagnosis.

Principle

Aluminium hematoxylin (e.g. nuclear fast red aluminium sulfate) are washed out of the tissue sections by acidic staining solutions. Iron hematoxylin solutions (e.g. Weigert’s iron hematoxylin), on the other hand, are acid-resistant and are preferentially used for staining nuclei in histological tissue sections in which counterstaining is done with acidic staining solutions. Examples here include the visualization of elastic fibers according to the van Gieson method (e.g. Elastica van Gieson) and the various trichrome connective-tissue staining methods (e.g. acc. to Masson-Goldner). Commonly used hemalum solutions such as Mayer’s Hemalum, Delafield, Gill and Harris tend to procedure also weak nucleic staining only when used with acidic counter-stains.

Sample material

Starting materials are sections of formalin- or Bouin-fixed tissue embedded in paraffin (3 - 5 µm thick paraffin sections).

Reagents

Cat. No. 1.15973.0002  
Weigert’s iron hematoxylin kit  
for nuclear staining in histology

Package components:

|                                                                               |        |
|-------------------------------------------------------------------------------|--------|
| The staining kit contains                                                     |        |
| Reagent 1: Weigert’s solution A - alcoholic hematoxylin solution              | 500 ml |
| Reagent 2: Weigert’s solution B - hydrochloric acid iron(III)nitrate solution | 500 ml |

Sample preparation

The sampling must be performed by qualified personnel.  
All samples must be treated using state-of-the-art technology.  
All samples must be clearly labeled.  
Suitable instruments must be used for taking samples and their preparation. Follow the manufacturer’s instructions for application / use.  
When using the corresponding auxiliary reagents, the corresponding instructions for use must be observed.  
Deparaffinize and rehydrate sections in the conventional manner.

Reagent preparation

Weigert’s iron hematoxylin staining solution

Mix reagent 1 and 2 (Weigert’s solution A and Weigert’s solution B) in the ratio 1 + 1.  
The prepared staining solution remains stable for approx. one working week.  
The solution must be exchanged as soon as the cell nuclei appear brown.

Procedure

Staining in the staining cell

Deparaffinize histological slides in the conventional manner and rehydrate in a descending alcohol series.  
The stated times should be adhered to in order to guarantee an optimal staining result.

|                                                                                                                   |       |
|-------------------------------------------------------------------------------------------------------------------|-------|
| Slide with histological specimen                                                                                  |       |
| Weigert’s iron hematoxylin staining solution                                                                      | 5 min |
| Running tap water                                                                                                 | 3 min |
| Counterstaining corresponding to the method used                                                                  |       |
| Ethanol 70 %                                                                                                      | 1 min |
| Ethanol 70 %                                                                                                      | 1 min |
| Ethanol 96 %                                                                                                      | 1 min |
| Ethanol 96 %                                                                                                      | 1 min |
| Ethanol 100 %                                                                                                     | 1 min |
| Ethanol 100 %                                                                                                     | 1 min |
| Xylene or Neo-Clear®                                                                                              | 5 min |
| Xylene or Neo-Clear®                                                                                              | 5 min |
| Mount the Neo-Clear®-wet slides with Neo-Mount® or the xylene-wet slides with e.g. Entellan® new and cover glass. |       |

After dehydration (ascending alcohol series) and clarification with xylene or Neo-Clear®, histological slides can be covered with non-aqueous mounting agents (e.g. DPX new, Entellan® new, Neo-Mount®) and a cover glass and can then be stored.

Result

Nuclei blue-black

Trouble-shooting

Weak staining

Weigert’s iron hematoxylin staining solution (mixture of Reagents 1 and 2) can be used for approx. 1 working week after preparation; a new solution should be prepared after this time has elapsed (over-oxidation).

In addition, as an alternative it is also possible to fix the tissue specimen using the Bouin fixing method, since the formalin fixation may result in an insoluble protein network that in some tissues is capable of preventing the penetration of large staining particles (e.g. fuchsin), in particular when the tissue has been fixed for a very long time.

Technical notes

The microscope used should meet the requirements of a medical diagnostic laboratory.  
When using histoprocessor systems or automatic staining systems, please follow the instructions for use supplied by the supplier of the system and software.

Diagnostics

Diagnoses are to be made only by authorized and qualified personnel.  
Valid nomenclatures must be used.  
This method can be supplementarily used in human diagnostics.  
Further tests must be selected and implemented according to recognized methods.  
Suitable controls should be conducted with each application in order to avoid an incorrect result.

Storage

Store the Weigert’s iron hematoxylin kit - for nuclear staining in histology at +15 °C to +25 °C.

Shelf-life

The Weigert’s iron hematoxylin kit - for nuclear staining in histology can be used until the stated expiry date.  
After first opening of the bottle, the contents can be used up to the stated expiry date when stored at +15 °C to +25 °C.  
The bottles must be kept tightly closed at all times.  
If stored at +15°C to +25 °C, the freshly prepared Weigert’s iron hematoxylin staining solution can be used for minimum one working week.  
The solution must be exchanged as soon as the cell nuclei appear brown.  
However, the solutions should be discarded when contaminations (e.g. bacteria, fungi), that occur at times, are observed.

Capacity

The package is sufficient for 400 - 500 applications.

## Additional instructions

### For professional use only.

In order to avoid errors, the application must be carried out by qualified personnel only.  
National guidelines for work safety and quality assurance must be followed.  
Microscopes equipped according to the standard must be used.

## Protection against infection

Effective measures must be taken to protect against infection in line with laboratory guidelines.

## Instructions for disposal

The package must be disposed of in accordance with the current disposal guidelines.  
Used solutions and solutions that are past their shelf-life must be disposed of as special waste in accordance with local guidelines. Information on disposal can be obtained under the Quick Link "Hints for Disposal of Microscopy Products" at [www.microscopy-products.com](http://www.microscopy-products.com). Within the EU the currently applicable REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 applies.

## Auxiliary reagents

|          |        |                                                                           |                                        |
|----------|--------|---------------------------------------------------------------------------|----------------------------------------|
| Cat. No. | 100199 | Picrofuchsin solution acc. van Gieson for microscopy                      | 500 ml                                 |
| Cat. No. | 100579 | DPX new non-aqueous mounting medium for microscopy                        | 500 ml                                 |
| Cat. No. | 100591 | ELASTIN color solution acc. to Weigert for microscopy                     | 500 ml                                 |
| Cat. No. | 100974 | Ethanol denatured with about 1 % methyl ethyl ketone for analysis EMSURE® | 1 l, 2.5 l                             |
| Cat. No. | 103699 | Immersion oil Type N acc. to ISO 8036 for microscopy                      | 100-ml dropping bottle                 |
| Cat. No. | 104699 | Immersion oil for microscopy                                              | 100-ml dropping bottle, 100 ml, 500 ml |
| Cat. No. | 107961 | Entellan® new rapid mounting medium for microscopy                        | 100 ml, 500 ml, 1 l                    |
| Cat. No. | 108298 | Xylene (isomeric mixture) for histology                                   | 4 l                                    |
| Cat. No. | 109016 | Neo-Mount® anhydrous mounting medium for microscopy                       | 100-ml dropping bottle, 500 ml         |
| Cat. No. | 109843 | Neo-Clear® (xylene substitute) for microscopy                             | 5 l                                    |
| Cat. No. | 115974 | Elastica van Gieson staining kit for connective tissue                    | 4x 500 ml                              |

## Hazard classification

Cat. No. 1.15973.0002

Please observe the hazard classification printed on the label and the information given in the safety data sheet.  
The safety data sheet is available on the website and on request.

## Main components of the products

Cat. No. 1.15973.0002

Reagent 1

C.I. 75290 20 g/l

Reagent 2

Fe(NO<sub>3</sub>)<sub>3</sub> x 9 H<sub>2</sub>O 5 g/l  
HCl 25 % 11.2 g/l

## Other IVD products

|          |        |                                                                                                |                                                                         |
|----------|--------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| Cat. No. | 100496 | Formaldehyde solution 4%, buffered, pH 6.9 (approx. 10% Formalin solution) for histology       | 350 ml and 700 ml (in bottle with wide neck), 5 l, 10 l, 10 l Titripac® |
| Cat. No. | 101646 | PAS staining kit for detection of aldehyde and muco substances                                 | 2x 500 ml                                                               |
| Cat. No. | 102419 | Oil red O staining solution for the detection of neutral lipids in cryosections for microscopy | 250 ml                                                                  |
| Cat. No. | 105174 | Hematoxylin solution modified acc. to Gill III for microscopy                                  | 500 ml, 1 l, 2.5 l                                                      |
| Cat. No. | 109844 | Eosin Y-solution 0.5% aqueous for microscopy                                                   | 1 l, 2.5 l                                                              |
| Cat. No. | 115161 | Histosec® pastilles (without DMSO) solidification point 56-58°C embedding agent for histology  | 10 kg (4x 2.5 kg), 25 kg                                                |
| Cat. No. | 117081 | Eosin Y solution 1%, alcoholic for microscopy                                                  | 1 l                                                                     |

## General remark

If during the use of this device or as a result of its use, a serious incident has occurred, please report it to the manufacturer and/or its authorised representative and to your national authority.

## Literature

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5. Laboratory Manual of Histochemistry, Linda L. Vacca, 1985, Raven Press
6. Staining Procedures, George Clark, 1981, Williams&Wilkins, 4th Edition
7. Basiswissen Histologie und Zytologie, Karl Heinz Stein, Hellmut Flenker, 1998, uZv, 2. Auflage
8. Histological & Histochemical Methods: Theory & Practice, J. A. Kiernan, 1990, Pergamon Press, 2nd Edition
9. Histological and Histochemical Methods, Theory and practice, J. A. Kiernan, 2015, Scion Publishing Ltd, 5th Edition
10. Conn's Biological Stains, R.W. Horobin, J.A. Kiernan, 2002, Biological Stain Commission Publication, 10th Edition



Consult instructions for use



Manufacturer



Catalog number



Batch code



Caution, consult accompanying documents



Use by YYYY-MM-DD



Temperature limitation

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