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1.04239.1000

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1.12179.0025

1.12179.0100

Microscopy


Glutardialdehyde solution 25%

for electron microscopy

Glutardialdehyde solution 25%

for electron microscopy, acc. to P.J. Anderson
(purified and filled under nitrogen)

For professional use only

 In Vitro Diagnostic Medical Device


Intended purpose

These "Glutardialdehyde solution 25% - for electron microscopy" and "Glutardialdehyde solution 25% - for electron microscopy, acc. to P.J. Anderson (purified and filled under nitrogen)" are used for human-medical cell diagnosis and serves the purpose of the histological investigation of sample material of human origin. They are fixing solutions these when used together with other in vitro diagnostic products from our portfolio make target structures evaluable for diagnostic purposes (by fixing, embedding, staining, counterstaining, mounting) in histological specimen materials.

Using the auxiliary reagents from our portfolio creates the conditions that enable authorized and qualified investigators to make a correct diagnosis at the end of the diagnostic process. In this regard, auxiliary IVD reagents serve inter alia to process human specimen material (e.g. fixing, decalcifying, dehydrating, clarifying, paraffin-embedding, mounting, microscoping, archiving). When used together with the corresponding staining solutions, this enables the visualization of cellular structures that are otherwise low in contrast, thus rendering them evaluable under the optical microscope. Further investigations may be necessary to arrive at a conclusive diagnosis.

Principle

A perfect and flaw-free fixation of investigation material is an absolute precondition for exact histological diagnosis.

In order to prevent the changing of material, to maintain the specimen's structural features and to enable a clear stain and differentiation of the specimen, the specimen must be fixed dependent on size and material conditions.

Glutardialdehyde is a fixing agent for finely structured specimens for morphological and enzyme histochemical analysis. Sensitive enzymes such as endogenous peroxidase can in many cases be rendered visible only by using this fixing method.

The 25% glutardialdehyde solution is used for the fixation of specimen for semi-thin sections and electron microscopy. It is diluted with phosphate buffer to achieve the corresponding working concentration.

Especially sensitive material used for enzyme histochemistry will be fixed with glutardialdehyde acc. to P.J. Anderson, purified and filled into ampoules under nitrogen.

For electron microscopy or semithin sectioning the glutardialdehyde-fixed specimens are post-fixed with osmium(VIII) oxide.

Post-fixing with osmium(VIII) oxide enhances the contrast of the images of the lipids and thus of the lipid-rich organelles and structures.

Sample material

small specimens of tissue and organs only a few cubic millimeters in size

The fixed tissue can be further to prepare semi-thin sections for light microscopy evaluation or for electron microscopy according to the relevant regulations.

Reagents

Cat. No. 104239

Glutardialdehyde solution 25%
for electron microscopy

250 ml, 1 l, 2.5 l

Cat. No. 112179

Glutardialdehyde solution 25%
for electron microscopy, acc. to P.J. Anderson
(purified and filled under nitrogen)

25 ml, 100 ml

Also required:

Cat. No. 104873 Potassium dihydrogen phosphate 250 g, 1 kg
for analysis EMSURE® ISOCat. No. 106586 di-Sodium hydrogen phosphate anhydrous 500 g, 1 kg,
for analysis EMSURE® ACS,Reag. Ph Eur 2.5 kg

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.

Reagent preparation

Phosphate buffer solution 0.1 mol/l, pH 7.2

For preparation of approx. 1000 ml solution mix:

| | |
|--|---------|
| Potassium dihydrogen phosphate | 4.08 g |
| di-Sodium hydrogen phosphate anhydrous | 12.46 g |
| Distilled water | 1000 ml |
| dissolve | |

Glutardialdehyde working solution

Dilute the 25 % stock solution with phosphate buffer solution 0.1 mol/l, pH 7.2 to a 2.5 - 6.25 % working solution.

Procedure

Fixing with osmic acid post-fixing

The stated times should be adhered to in order to guarantee an optimal staining result.

| | | |
|--|-------------------|-------------------------------|
| Immediately after taking the samples, fix the tissue specimens at 4 °C using 2.5 - 6.25 % glutardialdehyde solution* | | at least 2 hours or overnight |
| Phosphate buffer solution 0.1 mol/l, pH 7.2 | wash | |
| Osmic acid solution 1 % or 2 % | post-fixing | 24 hours |
| Distilled water | wash thoroughly** | several hours |
| Ethanol 70 % | immerse | several hours |
| Distilled water | wash out** | |
| Mount with glycerol | | |

* cooled glutardialdehyde solutions enhance the fixing result

** changing the wash water frequently

Result

Lipid inclusions black
Background yellow to brown

Technical notes

The microscope or electron microscope used should meet the requirements of a medical diagnostic laboratory.

Follow the manufacturer's instructions for use microtome and other devices.

Diagnostics

Diagnoses are to be made only by authorized and qualified personnel. Valid nomenclatures must be used.

This product is an auxiliary reagent that, when used together with other IVD products such as staining solutions, renders human specimen material evaluable for diagnostic purposes.

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 Glutardialdehyde solution 25% - for electron microscopy and Glutardialdehyde solution 25% - for electron microscopy, acc. to P.J. Anderson (purified and filled under nitrogen at +2 °C to +8 °C).

Cat. No. 112179: After each opening of the bottle flush again with nitrogen.

Shelf-life

The Glutardialdehyde solution 25% - for electron microscopy and Glutardialdehyde solution 25% - for electron microscopy, acc. to P.J. Anderson (purified and filled under nitrogen) 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 +2 °C to +8 °C.

The bottles must be kept tightly closed at all times.

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.

Always work in a fume cupboard as **osmium fumes** can irritate and damage the mucous membranes.

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. 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. 100983 | Ethanol absolute for analysis EMSURE® ACS,ISO,Reag. Ph Eur | 1 l, 2.5 l, 5 l |
| Cat. No. 104095 | Glycerol for fluorescence microscopy | 250 ml |
| Cat. No. 104873 | Potassium dihydrogen phosphate for analysis EMSURE® ISO | 250 g, 1 kg |
| Cat. No. 106586 | di-Sodium hydrogen phosphate anhydrous for analysis EMSURE® ACS,Reag. Ph Eur | 500 g, 1 kg, 2.5 kg |
| Cat. No. 104119 | Osmium(VIII) oxide for electron microscopy (non IVD) | 100 mg, 500 mg, 1 g |

Hazard classification

Cat. No. 104239

Cat. No. 112179

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. 104239

$C_5H_8O_2$ 250 g/l
1 l = 1.06 kg

Cat. No. 112179

$C_5H_8O_2$ 250 g/l
1 l = 1.06 kg
M = 100.12 g/mol

Other IVD products

| | | |
|-----------------|--|--|
| Cat. No. 102419 | Oil red O staining solution for the detection of neutral lipids in cryo sections for microscopy | 250 ml |
| Cat. No. 103693 | M-FREEZE™ Cryoembedding media for microscopy | 100 ml |
| Cat. No. 103699 | Immersion oil Type N acc. to ISO 8036 for microscopy | 100-ml drop- ping bottle |
| Cat. No. 104699 | Immersion oil for microscopy | 100-ml drop- ping bottle, 100 ml, 500 ml |

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

1. Romeis - Mikroskopische Technik, Editors: Maria Mulisch, Ulrich Welsch, 2015, Springer Spektrum, 19. Auflage
2. Basiswissen Histologie und Zytologie, Karl Heinz Stein, Hellmut Flenker, 2004, 3. Auflage
3. Theory and Practice of Histological Techniques, John D Bancroft, Marilyn Gamble, 2008, Churchill Livingstone ELSEVIER, sixth Edition
4. Histological and Histochemical Methods, Theory and practice, J.A. Kiernan, 2015, Scion Publishing Ltd, 5th Edition
5. Histotechnik, Gudrun Lang, 2013 Springer Verlag, 2. Auflage
6. Welsch Sobotta - Lehrbuch Histologie, Editor: Ulrich Welsch, 2006, ELSEVIER Urban&Fischer, 2. Auflage



Consult instructions
for use



Manufacturer



Catalog number



Batch code



Caution, consult
accompanying documents



Use by
YYYY-MM-DD



Temperature
limitation

Status: 2021-Apr-19

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