

1.05230.0025

Microscopy

Oil red O (C.I. 26125)

for microscopy Certistain®



In Vitro Diagnostic Medical Device



This staining dye “Oil red O (C.I. 26125) - for microscopy Certistain®” is used for human-medical cell diagnosis and serves the purpose of the histological investigation of sample material of human origin. It is a dry staining dye that is used to prepare a staining solution, that when used together with other in vitro diagnostic products from our portfolio makes target structures (by cryo-embedding, staining with the above oil red O solution, counterstaining, mounting) in histological specimen materials, for example histological sections of e.g. the kidney, muscle tissue, the heart, or the lung, evaluable for diagnostic purposes.

Principle

Oil red O staining is used for the detection of neutral fat or polyethylene granula in e.g. histological tissues, in joint pathology or in cytological sample material. This Oil red O solution is ready-to-use and results in a brilliant, bright red staining of lipids, while the nuclei are counterstained blue with Hematoxylin solution acc. to Gill II.

The staining of lipids in histology specimens is a physical process. Oil red O is a lipophilic dye; due to its solubility characteristics it diffuses to the tissue lipids.

Sample material

Cryo sections of native tissue (8 - 10 µm)

Reagents

Cat. No. 1.05230.0025	
Oil red (C.I. 26125)	25 g
for microscopy Certistain®	
Color Index No.: 45410	
Color Index Name: Acid red 92	

Also required:

Cat. No. 105175	Hematoxylin solution modified acc. to Gill II for microscopy	500 ml, 2.5 l
Cat. No. 109634	2-Propanol for analysis EMSURE® ACS,ISO,Reag. Ph Eur	1 l, 2.5 l, 5 l

Alternatively:

Cat. No. 102419	Oil red O color solution for the detection of neutral lipids in cryo sections for microscopy	250 ml
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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

Staining can be carried out using either a ready-to-use (Cat. No. 102419) or a separately prepared oil red O solution (prepared from Cat. No. 105230).

2-propanol solution 60 %, aqueous

For preparation of approx. 100 ml solution mix:

2-Propanol 100 %	60 ml
Distilled water	40 ml

Oil red O solution

For preparation of approx. 100 ml solution mix and dissolve:

Oil red O (C.I. 26125) Certistain®	0.5 g
2-Propanol 60 %	100 ml
boil briefly and filter	

The freshly prepared staining solution should be filtered before use.

Procedure

Staining in the 60-ml Hellendahl cell

The slides must be immersed and moved about in the solutions, simple immersion alone yields inadequate staining results.

The slides should be allowed to drip off well after the individual staining steps as a measure to avoid any unnecessary cross-contamination of solutions.

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

Cryo section	
2-Propanol 60 %	place briefly
Oil red O solution	20 min
2-Propanol 60 %	place briefly
Distilled water	rinse
apply to a slide	
Hematoxylin solution modified acc. to Gill II	5 min
Distilled water	rinse
Running tap water	5 min
Mount the wet slides with e.g. Aquatex® and cover glass.	

To enable specimens to be stored over a period of several months, it is advisable to cover them with an aqueous mounting medium (e.g. Aquatex®, Kaiser's glycerol gelatine) and a cover glass.

The use of immersion oil is recommended for the analysis of stained slides with a microscopic magnification >40x.

Result

Cell nuclei	blue
Lipids	bright red

Trouble-shooting

Insufficient differentiation

The critical step of the staining procedure is the differentiation step with 60 % 2-propanol following the oil red O staining, which removes excess dye residues from the tissue. The times given here should be adhered to as carefully as possible to prevent any unspecific background staining.

Strong, unspecific background staining

Traces of fat on and in the specimen and on the slide are also specifically bound and stained by oil red O. Care should hence be taken to prevent any contamination with fat, since such residues may result in false-positive findings.

Technical notes

The microscope used should meet the requirements of a medical diagnostic laboratory. When using cryostats or automatic staining systems, please follow the instructions for use supplied by the supplier of the system and software. The freshly prepared staining solution should be filtered before use. Remove surplus immersion oil before filing.

Diagnostics

Diagnoses are to be made only by authorized and trained personnel. Valid nomenclatures must be used. 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. Use of a negative control (e.g. fat-free renal tissue) excludes e.g. unspecific staining results.

Storage

Store Oil red O (C.I. 26125) - for microscopy Certistain® at +5 °C to +30 °C.

Shelf-life

Oil red O (C.I. 26125) - for microscopy Certistain® 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 +5 °C to +30 °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.

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.	102419	Oil red O color solution for the detection of neutral lipids in cryo sections for microscopy	250 ml
Cat. No.	104699	Immersion oil for microscopy	100-ml dropping bottle, 100 ml, 500 ml
Cat. No.	105175	Hematoxylin solution modified acc. to Gill II for microscopy	500 ml, 2.5 l
Cat. No.	108562	Aquatex® (aqueous mounting agent) for microscopy	50-ml dropping bottle
Cat. No.	108635	Kaiser's glycerol gelatine, phenol-free for microscopy	100-ml dropping bottle
Cat. No.	109242	Kaiser's glycerol gelatine for microscopy	100 ml
Cat. No.	109634	2-Propanol for analysis EMSURE® ACS,ISO,Reag. Ph Eur	1 l, 2.5 l, 5 l

Hazard classification

Cat. No. 1.05230.0025

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 product

Cat. No. 1.05230.0025

C.I. 26125

$C_{26}H_{24}N_4O$

M = 408.50 g/mol

Other IVD products

Cat. No.	101646	PAS staining kit for detection of aldehyde and mucosubstances	2x 500 ml
Cat. No.	105174	Hematoxylin solution modified acc. to Gill III for microscopy	500 ml, 1 l, 2.5 l
Cat. No.	109249	Mayer's hemalum solution 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.	117081	Eosin Y solution 1%, alcoholic for microscopy	1 l

Literature

1. Romeis - Mikroskopische Technik, Editors: Mulisch, Maria, Welsch, Ulrich, 2015, Springer-Verlag Berlin Heidelberg
2. Theory and Practice of Histological Techniques, John D Bancroft and Marilyn Gamble, 6th Edition
3. Conn's Biological Stains: A Handbook of Dyes, Stains and Fluorochromes for Use in Biology and Medicine, 10th Edition, (ed. Horobin, R.W. and Kiernan, J.A). Bios, 2002



Consult instructions for use



Manufacturer



Catalog number



Batch code



Caution, consult accompanying documents



Use by YYYY-MM-DD



Temperature limitation

Status: 2018-01-05

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