IVD In Vitro Diagnostic Medical Device
For professional use only

Feulgen stain (Schiff) (R.A.LAMB)

Cat. No	Pack Type	Pack Size
351204L	Glass Bottle	500 ml

Composition

Na_2SO_3	12.6 g/l

Intended Use(s)

For the histochemical PAS reaction in the detection of glycogen, mucous, basal membranes and fungi and can also be used in the Feulgen reaction for the specific identification of DNA for the initial diagnosis and prognosis of malignant tumours.
In heamatology to initially detect lymphatic cell elements of acute leukaemias
Evaluate the result by comparing it to what would be the age related normal values
Review of the samples helps in determining the need for ancillary studies.
An initial review ot the patient´s clinical background is necessary to use in conjunction with the result of the staining

Samples derived from the human body

Rference:

Kiernan. J.A., *(1999)*
Histological and histochemical methods: Theory and practice, Ed. 3

Characteristics and performances

PAS reaction.

In this reaction, unsubstituted 1,2 glycols or amino-alcohols are oxidised by periodic acid to aldehydes in aqueous solution. These can then be detected by fuchsin-sulphurous acid (Schiff's reagent) by the formation of a red reaction complex. The PAS reaction is frequently used in pathology for the detection of glycogen, mucous, basal membranes and fungi.

In haematology, the PAS reaction can be used to detect lymphatic cell elements; along with the peroxidase and esterase reactions it is one of the three basic staining methods used for the differential diagnosis of acute leukaemias.
Schiff's reagent can also be used in the Feulgen reaction for the histochemical staining and specific identification of DNA.

Reagent

Cat. No	Description	Pack Size
35120	Feulgen stain (Schiff)	500 ml
35060	Haemalum (Mayer's) Gurr	500 ml
20593	Periodic Acid Normapur PA	50 g, 100 g
	Sodium Disulphite Normapur AR	1 kg
30024	Hydrochloric Acid 1 mol/l 1 N aqueous	1 l, 2,5 l, 5 l, 10 l, 20 l
30244	Spirit, methylated industrial GPR (IMS)	2.5 l, 25 l
28975	Xylene Mixture of isomers Normapur Anal	1 l, 2,5 l, 5 l, 20 l
36029	DPX mountant	100 ml, 500 ml
10107	Ethanol 'absolute' ,AnalaR'	500 ml, 1 l, 2,5 l, 25 l

Preparation

Periodic acid solution:
Dissolve 1 g periodic acid in 100 ml distilled water. Always prepare a fresh solution!
Sulphite solution
Mix 6 ml of 10% sodium disulphite solution with 5 ml 1N hydrochloric acid and make up to 100 ml with distilled water.

Sample material and preparation

Only for professional use.
Tissue sections fixed in formaline,paraffin sections

Air-dried blood smears.
Films are made by placing a drop of the samples on one end of a slide, and using a *spreader slide* to disperse the sample over the slide's length. The aim is to get a region where the cells are spaced far enough apart to be counted and differentiated.The slide is left to air dry
In order to avoid errors, the staining process must be carried out by qualified personnel.
National guidelines for work safety and quality assurance must be followed.
Microscopes equipped according to the standard must be used.
Suitable instruments must be used for taking samples and for their preparation. Follow the manufacturer's instructions for application/use.

All samples must be clearly labelled.

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Procedure

NB: Schiff's reagent must be colourless when used otherwise it will not function.

Histology:
Paraffin sections of samples derived from the human body to be de-paraffinized according to recognized methods.
in the laboratory and rehydrate

1. De-wax sections by your normal method and rehydrate with a descending series of alcohol washes to 70%
2. Place for 5 min in distilled water.
3. Incubate for 10 min in periodic acid solution.
4. Wash for 10 min in running water.
5. Incubate for 30 min in Schiff's reagent.
6. Wash for 3x2 min in sulphite solution.
7. Wash for 10 min in running water.
8. Counterstain for 10 min with Mayer's haemalum.
9. Blue for 10 min in running tap water.
10. Dehydrate with an ascending series of IMS/alcohol washes and clear in xylene or xylene substitute.
11. Mount with DPX.

To carry out the mounting process, drop approximately 0.5 ml mounting agent onto a horizontal slide using a glass rod. This fills the space between slide and coverglass. As soon as the specimen has been covered with a homogeneous solution, cover with a coverglass, taking care to avoid air bubbles. Allow to harden over a period of 20-30 minutes in a horizontal position.

Haematology:
Blood films are made by placing a drop of the samples on one end of a slide, and using a *spreader slide* to disperse the sample over the slide's length. The aim is to get a region where the cells are spaced far enough apart to be counted and differentiated.The slide is left to air dry

1. Fix the blood smears with formaldehyde vapour in a petri dish for 4-5 min.
2. Wash for 10-15 min with tap water.
3. As in Histology procedure above, steps 2-8
4. Dry in air - mounting is not necessary.

Result

The microscope used should meet the requirements of a medical diagnostic laboratory
Cell nuclei red-violet coloured
Cytoplasma and background should be uncoloured.
Glycogen, mucous, basal membranes and fungi are stained bright red
Evaluate the result by comparing it to what would be the age related normal values
Review of the samples helps in determining the need for ancillary studies.
An initial review ot the patient´s clinical background is necessary to use in conjunction with the result of the staining
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Diagnostics

Diagnoses are only to be made by authorised and trained persons. Valid nomenclatures must be used.
Further tests must be selected and implemented according to recognised methods.

Storage

The dye must be stored at +5°C to +30°C. After the first opening of the bottle the contents can be used up to the expiry date when stored at +5°C to +30°C.

Shelf life

The dye must be used by the expiry date stated. The bottles must be kept tightly closed at all times.

Auxiliary reagents

Cat. No	Description	Pack Size
36126	Microil Immersion oil tropical grade	100 ml
36104	Microil Immersion Oil	100 ml, 500 ml
36102	Lenzol Immersion oil Gurr	100 ml
36194	Fractoil Synthetic Immersion Oil	500 ml
28975	Xylene Mixture of isomers Normapur Anal	1 l, 2,5 l, 5 l, 20 l
36029	DPX mountant	100 ml, 500 ml

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Precautionary measures on health hazards
Effective measures must be taken to protect against infection in line with laboratory guidelines.

Physical Hazard classification
Please observe the hazard classification on the label and the information given in the safety data sheet.
The VWR safety data sheet is available on the Internet.

Instructions for environmental disposal
Used solutions and solutions that are past their shelf-life must be disposed of as special waste according to local disposal guidelines.VWR International can provide technical support for local disposal solutions.

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