PERIODIC ACID, 0.8% SOLUTION

IVD *In vitro* diagnostic medical device CE

Synonym: Orthoperiodic acid
INSTRUCTIONS FOR USE

REF Catalogue number: PK08-OT-30 (30 mL) PK08-OT-100 (100 mL) PK08-OT-250 (250 mL) PK08-OT-500 (500 mL)

Introduction

Periodic acid (H_5IO_6) is frequently used in the P.A.S.(Periodic Acid Schiff) method used for staining aldehydes, mucopolysaccharides and mucoproteins in purple/magenta. In case the acid mucosubstances (glycosaminoglycans) must be detected, Alcian Blue dye in Alcian-P.A.S. staining method can also be used (besides Schiff's reagent and periodic acid).

Product description

- **PERIODIC ACID, SOLUTION** - Component of P.A.S. and Alcian-P.A.S. kits

Other sections and reagents that may be used in staining:

- Fixatives such as BioGnost's neutral buffered formaldehyde solutions: Formaldehyde NB 4%, Formaldehyde NB 10%
- Dehydrating/rehydrating agent, such as BioGnost's alcohol solutions: Histanol 70, Histanol 80, Histanol 95 and Histanol 100
- Clearing agents, such as BioClear xylene or a substitute, such as BioClear New agent on the aliphatic hydrocarbons basis
- Infiltration and fitting agent, such as BioGnost's granulated paraffin BioWax Plus, BioWax 52/54, BioWax 56/68, BioWax Blue, BioWax Micro.
- Covering agents for microscopic sections and mounting cover glass, such as BioGnost's BioMount, BioMount High, BioMount M, BioMount New, BioMount New Low, BioMount DPX, BioMount DPX High, BioMount DPX Low, BioMount DPX Low Eco, BioMount C, BioMount Aqua, Canada Balsam
- High-quality glass slides for use in histopathology and cytology, such as VitroGnost SUPER GRADE, VitroGnost COLOR or one of more than 30 models of BioGnost's VitroGnost glass slides
- VitroGnost cover glass, dimensions range from 18x18mm to 24x60mm
- BioGnost's immersion media, such as Immersion oil, Immersion oil, types A, C, FF, 37, or Immersion oil Tropical Grade

Preparation of additional solutions used in staining

- Sulfite solution
  Mix 10 ml of Sodium metabisulfite, solution with 10 ml of HCL reagent, P.A.S. Add another 200 ml of tap water, then mix.
  Note: Prepare the sulfite solution shortly before using.

Preparing histological sections for staining

- Fix the tissue sample tightly (4% NB Formaldehyde, 10% NB Formaldehyde), rinse with water and dehydrate through series of ascending alcohol solutions (Histanol 70, Histanol 80, Histanol 95 and Histanol 100).
- Clear the sample with intermedium; in xylene (BioClear) or in a xylene substitute (BioClear New).
- Infiltrate and fit the sample in paraffin (BioWax 52/54, BioWax Plus 56/58, BioWax 56/58, BioWax Blue, BioWax Micro).
- Cut the paraffin block to 4-6 μm slices and place them on a VitroGnost glass slide.

P.A.S. histology sections staining procedure

Sample staining procedure

a) using kit for 100 tests (PAS5-100T)

1.	Deparaffinize the section in xylene (BioClear) or in a xylene substitute (BioClear New)	3 exchanges, 2 min each
2.	Rehydrate using 100% alcohol (Histanol 100)	2 exchanges, 5 and 3 min
3.	Rehydrate using 95% alcohol (Histanol 95)	2 min
4.	Rehydrate in distilled (demi) water	2 min
5.	Treat with Periodic acid, 0.8% solution (add ≥5 drops)	5-10 minutes
6.	Rinse under tap water	3 min
7.	Rinse the section with distilled (demi) water	
8.	Treat with BioSchiff reagent (add ≥5 drops)	10-15 minutes
9.	Treat with sulfite solution (add ≥5 drops)	3 exchanges, 2 min each
10.	Rinse under tap water	3 min
11.	Stain using Hematoxylin ML (add ≥5 drops)	1-3 minutes
12.	Rinse under tap water	3 min
13.	Dehydrate using 70% alcohol (Histanol 70)	5 dips
14.	Dehydrate using 95% alcohol (Histanol 95)	5 dips
15.	Dehydrate using 100% alcohol (Histanol 100)	2 min
16.	Clear the section in xylene (BioClear) or in a xylene substitute (BioClear New)	2 exchanges, 2 min each

Immediately after clearing apply an appropriate BioMount medium for covering/mounting on the section. If BioClear xylene was used, use one of BioGnost's mounting xylene-based media (BioMount, BioMount High, BioMount M, BioMount DPX, BioMount C, or universal BioMount New). If BioClear New xylene substitute was used, the appropriate covering agent is BioMount New. Cover the section with a VitroGnost cover glass.

Results

Blue - nuclei
Violet - polysaccharides, glycogen, neutral mucopolysaccharides, mucoproteins, glycoproteins, glycolipids, phospholipids, basement membrane, collagen

Note

Time periods of staining processes are not entirely standardized in clinical and laboratory practical experience. Time periods specified in the instruction approximately correspond to a longtime work practice with optimal results. Intensity of staining depends on the period of immersion in the dye. Real staining protocol depends on personal requests and priorities.

Preparing the sample and diagnostics

Use only appropriate instruments for collecting and preparing the samples. Process the samples with modern technology and mark them clearly. Follow the manufacturer's instructions for handling. In order to avoid mistakes, the staining procedure and diagnostics should only be conducted by authorized and qualified personnel. Use only microscope according to standards of the medical diagnostic laboratory.

Safety at work and environmental protection

Handle the product in accordance with safety at work and environmental protection guidelines. Used solutions and out of date solutions should be disposed of as special waste in accordance with national guidelines. Reagents used in this procedure could pose danger to human health. Tested tissue specimens are potentially infectious. Necessary safety measures for protecting human health should be taken in accordance with good laboratory practice. Act in accordance with signs and warnings notices printed on the product's label, as well as in BioGnost's material safety data sheet.

Storing, stability and expiry date

Keep Periodic acid, 0.8% solution in a tightly closed original package at temperature between 15°C and 25°C. Do not keep in cold places, do not freeze and avoid exposing to direct sunlight. Date of manufacture and expiry date are printed on the product's label.

References

1. Culling, C.F.A.(1974): Handbook of histopathological and histochemical techniques, 2nd ed., Butterworth, London, UK.
2. Davey, F.R. et Nelson, D.A.(1977): Periodic Acid Schiff (PAS) Stain. IN Hematology, 2nd ed., W. J. Williams, E. Buetler, A. J. Erslev, R.W. Rundles, McGraw-Hill, New York, p 1630-1632.
3. Hotchkiss, R.D.(1948): A microchemical reaction resulting in the staining of polysaccharide structures in fixed tissue preparations, Arch. Biochem. 16, p 131.
4. Sheehan D.C. et Hrapchak, B.B.(1980): Theory and Practice Histotechnology, 2nd ed., CV Mosby, St. Louis, (MO), pp 52, p 14-167.

PK08-X, V10-EN3, 26 April 2022, IŠP/VR

	Refer to the supplied documentation	°C	Storage temperature range	Σ	Number of tests in package	REF	Product code	CE	European Conformity
	Refer to supplied instructions		Keep away from heat and sunlight		Valid until	LOT	Lot number		Manufacturer
IVD	For *in vitro* diagnostic use only		Keep in dry place		Caution - fragile				

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