BIOGNOST®

PERIODIC ACID, 0.8% SOLUTION

CE IVD *In vitro* diagnostic medical device Classified acc. to Regulation (EU) 2017/746 - **Class A** device

Synonym: Orthoperiodic acid

INSTRUCTIONS FOR USE

BASIC UDI number	385889212HPC30708STARVF	
EMDN code	W01030708	
REF **Catalog number**	**Volume**	**UDI-DI number**
PK08-OT-100	100 mL	03858890002157
PK08-OT-250	250 mL	03858888824020
PK08-OT-500	500 mL	03858890001679

Intended use and test principle

Periodic acid (H_5IO_6) is frequently used in the PAS (Periodic Acid Schiff) method used for staining aldehydes, mucopolysaccharides and mucoproteins in purple/magenta. The role of periodic acid is to oxidize 1,2-glycols (present in glycogen, neutral mucins, glycoproteins, glycolipids, and some fungi) to aldehyde groups, which then react with the BioSchiff reagent and stain with the characteristic magenta color. 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). Periodic acid, 0.8% solution is also used in Weigert-Van Gieson kit for staining elastin, connective tissue and collagen.

Product description

- **PERIODIC ACID, 0.8% SOLUTION** – aqueous periodic acid solution for use in special kits

An example of use of Periodic acid, 0.8% solution in PAS staining method

Additional reagents and materials that can be used in this method

- 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 agent, such as BioClear xylene or its aliphatic hydrocarbon substitutes, such as BioClear New
- Infiltration and embedding agent, such as BioGnost's granulated paraffin BioWax Plus 56/58, BioWax 56/68, BioWax Blue
- Covering agents for microscopic sections and mounting cover glass, such as BioGnost's BioMount, BioMount High, BioMount M, BioMount New, BioMount DPX, BioMount DPX High, BioMount DPX Low, BioMount C, BioMount Aqua
- VitroGnost slides and coverslips for use in histopathology and cytology
- BioGnost's immersion oils, such as Immersion oil, Cedarwood oil, Immersion oils types A and C, FF, 37 or Tropical Grade
- The remaining components of P.A.S. kit: BioSchiff reagent (cat. no. BS-OT-100, BS-OT-500), Sodium metabisulfite, solution (cat. no. NM-OT-100, NM-OT-500), HCl reagent, P.A.S. (cat. no. HCLP-OT-100, HCLP-OT-500) and Hematoxylin ML (cat. no. HEMML-OT-100, HEMML-OT-500)

Preparation of histological sections for staining

- Fix (Formaldehyde NB 4%, Formaldehyde NB 10%) and process the tissue sample
- Embed the tissue in a paraffin block (BioWax 52/54, BioWax 56/58, BioWax Plus 56/58, BioWax Blue)
- Cut the paraffin block into 4-6 μm thin slices and mount on a VitroGnost microscope slide

Preparation of additional solutions used in staining

- Sulfite solution

Note: Prepare the sulfite solution shortly **before** using!

Volume sufficient for a Hellendahl staining jar (cca 80 mL): mix 3.75 mL of Sodium metabisulfite, solution with 3.75 mL of HCL reagent, P.A.S. Then add 75 mL of tap water and stir.

NOTE

Apply the reagent so it completely covers the section.

Make sure to tightly close BioSchiff reagent to avoid evaporation of SO_2 and to preserve reagent quality. After opening, keep the reagent at +2 to +8°C in original packaging.

Staining procedure according to P.A.S. staining method

Pour the reagents into glass staining jars (Coplin, Hellendahl or Schifferdecker), return to original bottles after staining. Close tightly. Filter the reagents if necessary.

1.	Deparaffinize in xylene (BioClear) or xylene substitute (BioClear New)	3 exchanges, 2 min each
2.	Rehydrate in 100% alcohol (Histanol 100)	2 exchanges, 5 and 3 min
3.	Rehydrate in 95% alcohol (Histanol 95)	2 min
4.	Rehydrate in distilled/demineralized water	2 min
5.	Immerse into Periodic acid, 0.8% solution	5 min
6.	Rinse under tap water	3 min
7.	Rinse in distilled/demineralized water	10 sec
8.	Immerse into BioSchiff reagent	15 min
	Note: make sure to close the jar during staining to avoid SO_2 evaporation	
9.	Immerse into sulfite solution without rinsing	3 exchanges, 2 min each
10.	Rinse under tap water	3 min
11.	Immerse into Hematoxylin ML	3 min
	If sedimentation occurs or a metallic sheen forms in Hematoxylin G2, filter the reagent before use	

12.	Rinse under tap water	2 min
14.	Dehydrate in 70% alcohol (Histanol 70)	5 dips
15.	Dehydrate in 95% alcohol (Histanol 95)	5 dips
16.	Dehydrate in 100% alcohol (Histanol 100)	2 min
17.	Clear 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 VitroGnost cover glass.

Result

Nuclei – blue

Polysaccharides, glycogen, neutral mucopolysaccharides, mucoproteins, glycoproteins, glycolipids, phospholipids, basement membrane, collagen – purple (magenta)

Limitations

This product is intended for professional laboratory use for diagnostic purposes only. Deviations from the staining procedure described in this Instruction for use may cause differences in staining results.

Sample preparation and diagnostics

Use only appropriate instruments for collecting and preparing the samples. Process the samples using modern technology and mark them clearly. Be sure to follow the manufacturer's handling instructions. To avoid errors, staining and diagnosis can only be carried out by qualified personnel. Use a microscope equipped according to medical diagnostic laboratory standards. To avoid an incorrect staining result, it is advised to use a positive and negative control.

If a serious incident occurs during use of this product or as a result of its use, please report it to the manufacturer or authorized representative and competent authority.

Safety at work and environmental protection

Handle the product in accordance with occupational health and environmental protection guidelines. Used and expired solutions must be disposed of as special waste following national guidelines. Reagents used in this procedure can pose a danger to human health. The examined tissue samples are potentially infectious, and it is necessary to take the measures needed to protect human health in accordance with the guidelines of good laboratory practice. It is mandatory to read and act according to the information and warning signs printed on the product label and in the Safety Data Sheet, which is available on request.

Storage, stability, and shelf life

Upon receipt, store the product in a dry place and well-closed original packaging at a temperature of +15 °C to +25 °C. Do not freeze or expose to direct sunlight. After first opening, the product can be used until the specified expiry date, if stored properly. The expiration date is printed on the product label.

References

1. Culling, C.F.A.(1974): Handbook of histopathological and histochemical techniques, 2 ed 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, str. 1630-1632.
3. Hotchkiss, R.D.(1948): A microchemical reaction resulting in the staining of polysaccharide structures in fixed tissue preparations, Arch. Biochem. 16, str. 131.
4. Sheehan D.C. et Hrapchak, B.B.(1980): Theory and Practice Histotechnology, 2nd ed., CV Mosby, St. Louis, (MO), pp 52, str. 14-167.

Warnings and precautions regarding the materials contained in the product:
Not a hazardous substance or mixture acc. to Regulation (EZ) br. 1272/2008.

PK08S-IFU_ENV6, 27.02.2026., IŠP

	Manufacturer	LOT	Batch code		Consult instructions for use	CE	European conformity
	Date of manufacture	REF	Catalogue number		Caution	UDI	Unique device identifier
	Use-by date	°C	Temperature limit	IVD	*In vitro* diagnostic medical device		

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Version	Description / reason for change	Date
6	Revised acc. to Regulation (EU) 2017/746 - IVDR	27.02.2026.