BIOGNOST®

P.A.S. KIT

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

Periodic Acid-Schiff kit for staining aldehydes, mucopolysaccharides and mucoproteins acc. to Hotchkiss-McManus

INSTRUCTIONS FOR USE

BASIC UDI number	385889212HPC30708STARVF	
EMDN code	W01030708	
REF **Catalog number**	**Volume**	**UDI-DI number**
PAS5-100T	100 tests	03858890000078
PAS5-K-100	5x100 mL	03858888822088
PAS5-K-500	5x500 mL	03858888822354

Intended use and test principle

One of the most frequently used chemical methods in histology is P.A.S. staining. The P.A.S. staining is based on oxydation reaction with the presence of periodic acid and Schiff's reagent. Periodic acid makes the molecules containing glycol groups create aldehydes affected by Schiff's reagent that stains them violet (magenta). This method is most commonly used in liver and muscle cells testing. By applying the P.A.S. method to unsubstituted polysaccharides, neutral mucopolysaccharides, mucoproteins and glycoproteins, glycolipids and phospholipids, specific colorations are produced. Combined with Alcian Blue, it can detect acid mucosubstances (glycosaminoglycans).

Product description

- **P.A.S. KIT** – Five-reagent kit for staining aldehydes, mucopolysaccharides and mucoproteins

The kit contains:	**100 tests (PAS5-100T)**	**5 x 100 mL (PAS5-K-100)**	**5 x 500 mL (PAS5-K-500)**	**Storage temperature**
Periodic acid, 0,8% solution	30 mL (PK08-OT-30)	100 mL (PK08-OT-100)	500 mL (PK08-OT-500)	15-25˚C
BioSchiff reagent	30 mL (BS-OT-30)	100 mL (BS-OT-100)	500 mL (BS-OT-500)	2-8 ℃
Sodium metabisulphite, solution	30 mL (NM-OT-30)	100 mL (NM-OT-100)	500 mL (NM-OT-500)	15-25˚C
HCL reagent, P.A.S.	30 mL (HCLP-OT-30)	100 mL (HCLP-OT-100)	500 mL (HCLP-OT-500)	15-25˚C
Hematoxylin ML	30 mL (HEMML-OT-30)	100 mL (HEMML-OT-100)	500 mL (HEMML-OT-500)	15-25˚C

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

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

Sulphite solution

- **For use with kit for 100 tests:** mix 0.25 ml of Sodium metabisulfite, solution with 0.25 ml of HCl reagent, P.A.S.. Add another 5 ml of tap water, then stir.
- **For use with larger volume kits**: mix 5 ml of Sodium metabisulfite, solution with 5 ml of HCl reagent, P.A.S.. Add 100 ml of tap water, then stir

Note: Prepare the sulfite solution shortly before using. Adjust the volume of prepared sulfite solution to the number of sections and the method of treating the sulfite solution in order to achieve more economic consumption and maximum efficiency.

NOTE

Apply the reagent so it completely covers the section.

The bottle containing BioSchiff reagent must be tightly closed in order to avoid SO_2 evaporation and to maintain reagent quality. Immediately after use, store the reagent at +2 to +8 ℃ in its original packaging.

Sample staining procedure

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

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.	Treat with Periodic acid, 0.8% solution (add ≥5 drops)	5-10 min
6.	Rinse under tap water	3 min
7.	Rinse in distilled/demineralized water	
8.	Treat with BioSchiff reagent (add ≥5 drops)	10-15 min
9.	Pour the reagent off the section without rinsing	
10.	Treat with sulfite solution (add ≥5 drops)	3 exchanges, 2 min each
	Note: apply sulfite solution to the slide, then pour off the reagent from the slide after 2 minutes, and repeat the procedure twice; do not rinse between exchanges	
11.	Rinse under tap water	3 min
12.	Stain using Hematoxylin ML (add ≥5 drops)	1-3 min
13.	Rinse under tap water	3 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 slide. 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.

b) using five-reagent kit 100 or 500 mL kit (PAS5-K-100, PAS5-K-500)

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 (demi) water	2 min
5.	Immerse into Periodic acid, 0.8% solution	5-10 min
6.	Rinse under tap water	3 min
7.	Rinse in distilled/demineralized water	
8.	Immerse into BioSchiff reagent	10-15 min
	Note: during staining procedure it is required to put a lid on the jar in order to avoid SO_2 evaporation	
9.	Pour the reagent off the section without rinsing	
10.	Immerse into sulphite solution	3 exchanges, 2 min each
	Note: immerse the sections in 3 exchanges of sulfite solution; do not rinse between exchanges	
11.	Rinse under tap water	3 min
12.	Immerse into Hematoxylin ML	1-3 min
13.	Rinse under tap water	3 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 xylene substitute (BioClear New)	2 exchanges, 2 min each

Immediately after clearing apply an appropriate BioMount medium for covering/mounting on the slide. 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, basal, collagen - purple

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

Components of P.A.S. kit are kept under different storage conditions. Upon receipt, store the components in a dry place and well-closed original packaging at temperature indicated on the label. The product can be transported at room or ambient temperature. Do not freeze and avoid exposing 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 an Practice Histotechnology, 2nd ed., CV Mosby, St. Louis, (MO), pp 52, str. 14-167.

Warnings and precautions regarding the materials contained in the product:

EUH031	Contact with acids liberates toxic gas.
H319	Causes serious eye irritation..
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338	IF IN EYES: rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: get medical advice/attention.

PAS5-IFU_ENV13, 03.04.2026., IŠP

	Manufacturer	LOT	Batch code	°C	Temperature limit	IVD	*In vitro* diagnostic medical device	UDI	Unique device identifier
	Date of manufacture	REF	Catalogue number		Consult instructions for use	Σ	Contains sufficient for <n>tests		
	Use-by date		Fragile, handle with care		Caution	CE	European conformity		

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Version	Description / reason for change	Date
13	Change in storage temperature of the BioSchiff reagent to 2-8 °C	03.04.2026.