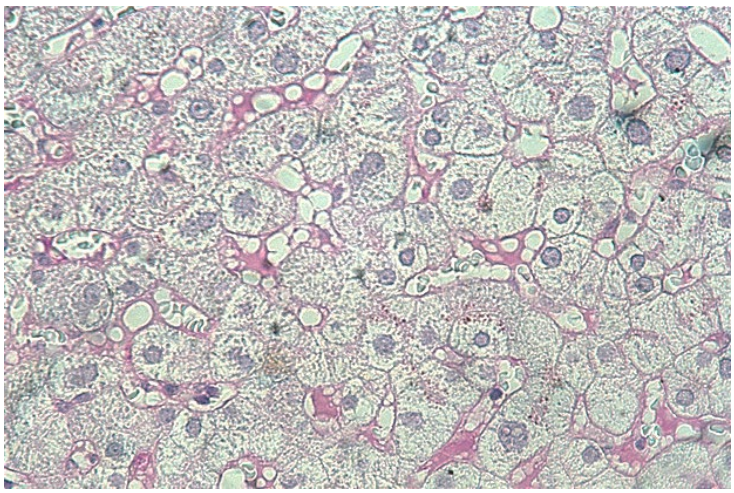
Bio - Optica
Improving Pathology

Data Sheet

CE

P.A.S. – A

Periodic Acid Schiff



Liver

CODE	DESCRIPTION	TESTS NUMBER
04-130803	P.A.S. - A	100

IVD In Vitro Diagnostic – medical device
IVD in **Class A**, Reg. UE 2017/746
UDI-DI: 08033976231224
Basic UDI: 080339762W01030799Y5

Manufacturer: Bio-Optica Milano S.p.A.

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Product for the preparation of cyto-histological samples for optical microscopy.
The removal of glycogen on tissue section with Amylase solution followed by PAS reaction is advisable in order to observe only epithelial neutral mucins.

PRINCIPLE

AMYLASE ACTIVITY
The activity of Amylase enzyme (or Amylase from Bacillus subtilis A) in hydrolysing the β-1,4 glycosidic bonds results higher than Diastase activity. The Amylase solution is incubated for only 10 minutes at room temperature.
PAS REACTION
Periodic acid oxidizes selectively the following groups: 1,2 glycolic; primary aminic (1-hydroxy-2-aminic); secondary aminic (1-hydroxy-2-alkylaminic); 1-hydroxy-2-ketonic. Some methoxyl derivatives and alpha-ketones are oxidized as well, but they are not converted to aldehydes. During oxidation process the links between carbon atoms in 1,2 position break and consequently aldehydic groups are formed. In the following reaction, sulphurous fuchsin in Schiff reagent changes these two contiguous aldehydic groups into an insoluble stained compound similar to basic fuchsin. Three conditions are necessary for these reactions to take place:
- Hydroxyl groups must be free,
- The compounds that form after oxidation must not spread in the tissue,
- There must be enough aldehydic groups in the compounds for a histochemical survey.

Only macromolecules such as glycan and mucins are able to meet these demands. Periodic acid has been chosen as oxidizer because it arrests oxidation at aldehydic phase. Acid glycan do not react, except for monosulphuric heparin, since the presence of $-SO_3H$ group blocks reactive glycolic groups.

METHOD

1) Bring section to distilled water.
2) Bring the reagent A at room temperature.
3) Cover sections with reagent A: incubate 10 minutes at room temperature
4) Rinse the slides in distilled water several times.
5) Put on the section 10 drops of reagent B: leave to act 10 minutes.
6) Wash in distilled water.
7) Put on the section 10 drops of reagent C: leave to act 20 minutes.
8) Wash in distilled water.
9) Put on the section 10 drops of reagent D: leave to act 2 minutes.
10) Drain the slide and without washing add 10 drops of reagent E: leave to act 2 minutes.
11) Rinse in distilled water
12) Put on the section 10 drops of reagent F: 3 minutes.
13) Wash in running tap water for 5 minutes.
14) Dehydrate through ascending alcohols. Clear in xylene and mount.

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Technical details

Method specifications	Procedure time	60 minutes	
	Complementary equipment	Not requested	
	Results	Positive P.A.S. substances:	Magenta red
		Nuclei:	Blue
Components	A) Amylase from Bacillus subtilis	30 ml	
	B) Periodic acid solution	30 ml	
	C) Schiff reagent Hotchkiss McManus	30 ml	
	D) Potassium metabisulphite solution	30 ml	
	E) Fixative solution	30 ml	
	F) Mayer's Hemalum	30 ml	
Storage	Storage	Store the preparation at 2 - 8°C. Keep the containers tightly closed.	
	Storage temperature	2 - 8°C	
	Stability	After the first opening, the product is reusable until the expiry date, if correctly stored.	
	Validity	1 year	
Warning	Product classification	The product is intended for professional laboratory use for healthcare professionals. Carefully read the information on the label (danger symbols, risk and safety phrases) and always consult the safety data sheet. Do not use if the primary container is damaged. In the event of a serious accident, we recommended that you immediately inform Bio-Optica Milano S.p.A and the competent authorities.	
	Disposal	Hazardous preparation: observe all state and local environmental regulations regarding waste disposal.	

REVISION n°	REASON	REVISION DATE
001	Regulation adjustment UE 2017/746 - IVDR	16/05/2022

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