

# SODIUM TETRABORATE, SOLUTION

IVD *In vitro* diagnostic medical device



## Optimal concentration of sodium tetraborate (borax) solution

### INSTRUCTIONS FOR USE

REF Catalogue number: NTB-OT-100 (100 mL) NTB-OT-500 (500 mL)

#### Introduction

Sodium tetraborate solution is used as a component of Alcian Blue pH 2.5 kit, as well as Alcian Blue - P.A.S. kit. Alcian Blue pH 2.5 kit enables quality staining and visualization of acid mucins and it does not stain sulfate mucins; Alcian Blue - P.A.S. kit is used for detecting acid mucopolysaccharides according to Mowry. Rinsing solutions are of the same pH value, making the specificity of the reaction more intense.

#### Product description

- **Sodium tetraborate, solution** – Optimally concentrated aqueous solution of sodium tetraborate

Example of usage of Sodium tetraborate, solution as a component of Alcian Blue pH 2.5 kit:

#### 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

#### 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  $\mu$ m slices and place them on a VitroGnost glass slide.

#### Sample staining procedure

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

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.	Immerse into Alcian Blue solution pH 2.5	45 min
6.	Without rinsing, immerse into Sodium tetraborate, solution	10 min
7.	Rinse in distilled (demi) water	5 min
8.	Immerse into Nuclear Fast Red (Kernechtrot) reagent	5 min
9.	Rinse in distilled (demi) water	2 min
10.	Dehydrate using 70% alcohol (Histanol 70)	5 dips
11.	Dehydrate using 95% alcohol (Histanol 95)	5 dips
12.	Dehydrate using 100% alcohol (Histanol 100)	2 min
13.	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

Nuclei - red  
Mucins - blue

#### Note

Staining procedures are not standardized and they depend on standard operating procedures of individual laboratories and the experience of the personnel conducting the staining procedure. Intensity of staining depends on the period of immersion in the dye. Depending on personal requests and standard laboratory operating procedures, sample processing and staining can be carried out according to other protocols.

### 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. In order to avoid an erroneous result, a positive and negative check is advised before application.

### 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. Chemicals 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 Sodium tetraborate, solution in a tightly closed original package at temperature between 15°C and 25°C. Keep in dry 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. Conn, J. (1977): Biological Stains, 9<sup>th</sup> ed., Baltimore: Williams and Wilkins Co.
2. Mowry, R.W. (1956): Alcian blue techniques for the histochemical study of acidic carbohydrates, Journal of Histochemistry and Cytochemistry, 4, 407.
3. Scott, J.E., Dorling, J. (1965): Differential staining of acid glycosaminoglycans (mucopolysaccharides) by Alcian blue in salt solutions, Histochemie, 5, 221-233.

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	Refer to the supplied documentation		Storage temperature range		Number of tests in package		Product code		European Conformity
	Refer to supplied instructions		Keep away from heat and sunlight		Valid until		Lot number		Manufacturer
	For <i>in vitro</i> diagnostic use only		Keep in dry place		Caution - fragile				



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