BIOGNOST®

DEHEMATIN

IVD *In vitro* diagnostic medical device CE

Modified Kardasewitch solution for depigmentation of tissues fixed in non-buffered formalin (after acid hematin occurs)

INSTRUCTIONS FOR USE

REF Product code: KO–OT-1L (1000 ml) KO-OT-5L (5000 mL)

Introduction

During histological fixation of the formaldehyde solution (primarily, the samples containing larger amounts of blood such as the liver and bone marrow samples), in cells and outside the cells small brown/dark brown diamond shaped crystals form. Formalin pigments are methemoglobins (hematins) formed by hemoglobin oxidation in a non-buffered formaldehyde solution. Kardasewitch solution (consisting of ammonia and alcohol) is routinely used for removing formalin pigment. Pigments that are successfully removed using this method are formalin pigments and hemozoin, while pigments hemosiderin, melanin and lipofuscin are not removed using this method.

Product description

- **DEHEMATIN** – Alcohol solution with ammonia.

Other slides 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 52/54, BioWax Plus 56/58, BioWax 56/68, BioWax Blue, BioWax Micro
- 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 18x18 mm to 24x60 mm

Processing the histological section and depigmentation of acid hematein using DeHematin solution

- Fixate the sample, 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 Plus, BioWax 56/58, BioWax Blue, BioWax Micro)
- Cut the paraffin block to 4-6 μm slices and place them on a VitroGnost glass slide
- Deparaffinize the section using xylene (BioClear) or a xylene substitute (BioClear New), then rehydrate the section through series of descending alcohol solutions (Histanol 100, Histanol 95, Histanol 80 and Histanol 70)
- Rinse the section with distilled or demineralized water until the surface of the preparation becomes homogenized.
- Immerse the section in DeHematin solution for 1 hour
- Wash the section with distilled/demineralized water
- Stain the section using the routine hematoxylin and eosin (HE) or another method
  Note: Staining procedure by the hematoxylin and eosin (HE) method is described in the following products' instructions for use: Hematoxylin H, Hematoxylin ML, Hematoxylin G1, Hematoxylin G2, Hematoxylin G3, Hematoxylin M, Eosin 0.5% aqueous, Eosin 1% aqueous, Eosin 0.5% alcoholic, Eosin Contrast. The instructions are available on demand.

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 taken care of as a 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 DeHematin 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. Asaldi, G. et Strosselli, E. (1959): Biopsy of the normal intestine, *Digestive diseases and sciences,* 5(3), str. 175-212.
2. Katzin, L., I. (1956): Factors affecting the solution of inorganic salts in organic solvents, *Journal of inorganic and Nuclear Chemistry,* 4(3-4), str. 187-204.
3. Mikio, S. (2001): Daily dyeing method guidance for histopathology and cytodiagnosis. (12) Daily dyeing method of the vital pigment. c) The proof of formalin pigment. Bleaching method (Verocay method, Kardasewitsch method), *Modern Medical Laboratory,* 29 (7), str. 871-873.
4. Schlegel, K. A. (2002): Soft tissue findings above submerged titanium implants – a histological and spectroscopic study,

KO-OT-X V7-EN5, 27 May 2019, AK/VR

	Refer to the supplied documentation	°C	Storage temperature range	Σ	Number of tests in package	REF	Product code	CE	European Conformity		BIOGNOST Ltd. Medjugorska 59 10040 Zagreb CROATIA www.biognost.com
	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						

CE