BIOGNOST®

GOLD CHLORIDE, 0.6% SOLUTION

IVD *In vitro* diagnostic medical device CE

0.6% gold chloride aqueous solution (aurichloric acid, $HAuCl_4$)
INSTRUCTIONS FOR USE

REF Product code: ZK06-OT-100 (100 mL)

Introduction

Gold chloride, 0.6% solution is a component of many special staining kits, such Grocott kit, stabilized, and P.A.S.M. Jones, stabilized (staining according to Gomori Jones). In those kits gold chloride provides toning of the section's image, and also stabilization of the dye on the section. After using gold chloride solution, it is usually followed by counterstain, such as Nuclear Fast Red (Kernechtrot) or Fast Green stain.

Product description

GOLD CHLORIDE, 0.6% SOLUTION – aqueous solution of aurichloric acid.

Example of using Gold chloride, 0.6% solution with Grocott kit, stabilized:

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 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 types of BioGnost's VitroGnost glass slides
- Other components of Grocott kit, stabilized: Periodic acid, 1% solution (PK1-OT-30, PK1-OT-100), Silver nitrate, stabilized solution (SNS-OT-100, SNS-OT-500, Methenamine, solution (MET-OT-50, MET-OT-100), Borax, solution (BO-OT-35, BO-OT-105), Sodium thiosulfate, 2% solution (NT2-OT-30, NT2-OT-100), Fast Green F.C.F. contrast reagent (FGKR-OT-30, FGKR-OT-100)

Preparing histology 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 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 μm slices and place them on a VitroGnost glass slide.

NOTE: Apply the reagent so it completely covers the section.

CAUTION:
- use distilled or demi high purity water **WITHOUT** any chlorine (< 5,5 μS electrical conductivity)
- use completely clean laboratory glassware
- do not touch the sections or solution with metal objects (metal spoons, tweezers and so on) during staining
- apply the reagent so it completely covers the section
- keep the reagents at room temperature (+15 °C to +25°C); lower temperatures may cause precipitation in reagents and inefficient staining

Sample staining procedure

Grocott kit, stabilized for 100 tests for staining fungi and basal membranes

Preparing silver-methenamine-borate working solution:

40 ml volume (optimal for Coplin jar):

Add 15 mL of double distilled (demi) water, 3 mL of Methenamine, solution and 2 mL of Borax, solution to the vessel. Then add 20 mL of Silver nitrate, stabilized solution and stir with a glass stick.

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, 3 and 2 min
3.	Rehydrate using 95% alcohol (Histanol 95)	2 min
4.	Rehydrate in distilled (demi) water	2 min
5.	Add Periodic acid, 1% solution	5 min for fungi oxidation
	Note: prolong incubation period for basal membrane oxidation	11 min
6.	Rinse in double distilled (demi) water	3 exchanges, 30 seconds each
7.	Prepare fresh **silver-methenamine-borate working solution** and incubate with the sections at +56°C in a water bath. If necessary, microscopically check the color of the sections	20-25 min for fungi staining
	Note: incubate for 30 minutes for staining basal membrane, and then visually check until desired staining intensity (basal membranes take on dark brown color on a light yellow background)	30-35 min
8.	Rinse thoroughly in double distilled (demi) water (room temperature)	3 exchanges, 30 seconds each
9.	Add Gold chloride, 0.6% solution	30-60 seconds
	Note: longer exposure to Gold Chloride, 0.6% solution shifts the shade of membrane staining from black to gray	
10.	Rinse in double distilled (demi) water (room temperature)	3 exchanges, 30 seconds each
11.	Add Sodium thiosulfate, 2% solution	2 min
12.	Rinse under indirect tap water stream	until the excessive reagent is washed off of the section
13.	Add Fast Green FCF counterstain	2-3 min
14.	Rinse in distilled (demi) water	

15.	Dehydrate using 95% alcohol (Histanol 95)	2 exchanges, 30 seconds each
16.	Dehydrate using 100% alcohol (Histanol 100)	30 seconds
17.	Dehydrate using 100% alcohol (Histanol 100)	2 min
18.	Clear using xylene (BioClear) or xylene substitute (BioClear New)	2 exchanges, 2 minutes 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.

Result

Basal membranes, glycogen, bacteria and fungi - black
Background - green

Note

Microbiology 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.

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 Gold chloride, 0.6% solution in a tightly sealed original packaging at temperature between +15 °C and +25 °C. Do not freeze and avoid exposing to direct sunlight. Date of manufacture and expiry date are printed on the product's label.

References

1. Gomori, G. (1939): The effect of certain factors on result of silver impregnation for Reticulum fibers, Am. J. Path. , 15; 493-495
2. Gordon et Sweet, H. (1936): A rapid method for silver impregnation of reticulum, Am. J. Path., 12: 545-551

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	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	CE
	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						