

FOUCHET-VAN GIESON KIT

IVD *In vitro* diagnostic medical device



Three-reagent kit for displaying bilirubin and collagen

INSTRUCTIONS FOR USE

REF Catalogue number: FVG-100T (for 100 tests)

FVG-K-100 (3 x 100 mL)

Introduction

Fouchet-Van Gieson kit is used for simultaneous visualization of bilirubin and collagen in histological samples. Bilirubin is a yellow-brown pigment created as a result of hemoglobin degradation. Hemoglobin degradation occurs in bone marrow, spleen, and liver. In case of patients that suffer from hepatitis, bilirubin builds up in the form of thrombus in bile ducts and in form of granules in hepatocytes and in cytoplasm of Kupfer cells. Pigment is insoluble in water and in water fixatives. However, in case of too long exposure to formalin fixatives it may turn green. The color that is created during staining using Fouchet-Van Gieson kit is due to strong oxidoreduction of the complex and subsequent conversion to biliverdin (green). False positive reaction may be checked using HemoGnost Perls kit - in that case Perls reaction will always be negative to bilirubin.

Product description

- **FOUCHET-VAN GIESON KIT** – Kit for staining bilirubin and collagen

The kit contains:	100 tests (FVG-100T)	3 x 100 mL (FVG-K-100)
Trichloroacetic acid, solution	30 mL (TKO-OT-30)	100 mL (TKO-OT-100)
Iron chloride, solution	30 mL (FK-OT-30)	100 mL (FK-OT-100)
Fuchsin Acid Van Gieson reagent	30 mL (FAG-OT-30)	100 mL (FAG-OT-100)

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 models of BioGnost's VitroGnost glass slides

Preparing the histological sections for staining

- Fixate the sample (Formaldehyde NB 4%, Formaldehyde NB 10%), 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 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.

Histological sections staining procedure

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

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.	Add 5 drops of Trichloroacetic acid, solution to the section and 5 drops of Iron chloride, solution	5 min
6.	Rinse in distilled (demi) water	
7.	Drip Fuchsin Acid Van Gieson reagent (≥5 drops)	7 min
8.	No rinsing, dry on air	5 min
9.	Dehydrate using 100% alcohol (Histanol 100)	2 exchanges, 1 min each
10.	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.

b) using five-reagent 100 mL kit (FVG-K-100)

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.	Mix equal volumes of Trichloroacetic acid, solution and Iron chloride, solution, and immerse the sections	5 min
	Note: the solution can be used for further few months; however, the best results are achieved with freshly prepared solution	

6.	Rinse in distilled (demi) water	
7.	Immerse into Fuchsin Acid Van Gieson reagent	7 min
8.	No rinsing, dry on air	5 min
9.	Dehydrate using 100% alcohol (Histanol 100)	2 exchanges, 1 min each
10.	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.

Result

Bilirubin - green

Collagen - red

Muscle tissue, glial fibers, cytoplasm, corneal epithelium - yellow

Note

Time periods of staining processes are not entirely standardized and they approximately correspond to clinical and laboratory practical experience. Intensity of staining depends on the period of immersion in the dye. Real staining protocol depends on personal requests and priorities.

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 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 Fouchet-Van Gieson kit in a tightly closed original package 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. Culling, C.F.A. (1974): Handbook of histopathological and histochemical techniques, 2nd ed., Butterworth, London, UK.
2. Lillie, R.D. (1945): Studies on selective staining of collagen with acid aniline dyes, J. Technical Methods, 25:1
3. Sheehan D.C. et Hrapchak, B.B. (1980): Theory and Practice Histotechnology, 2nd ed., CV Mosby, St. Louis, (MO), pp 52, p 14-167.
4. Van Gieson, I. (1889): Laboratory notes of technical methods for the nervous system, New York Med. J., 50: 57-60

FVG-K-X, V3-EN2, 13 February 2017, AK/VR

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

 Product code	 European Conformity
 Lot number	 Manufacturer

 BIOGNOST Ltd.
Medjugorska 59
10040 Zagreb
CROATIA
www.biognost.com

