

FOUCHET-VAN GIESON KIT



IVD *In vitro* diagnostic medical device

Classified acc. to Regulation (EU) 2017/746 - **Class A** device

Three-reagent kit for visualization of bilirubin and collagen

INSTRUCTIONS FOR USE

BASIC UDI number	385889212HPC30708STARVF		
EMDN code	W01030708		
REF	Catalog number	Volume	UDI-DI number
FVG-100T	For 100 tests		03858890004908
FVG-K-100	4x100 mL		03858890005233



Intended use and test principle

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 green biliverdin. 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)	Storage temperature
Trichloroacetic acid, solution	30 mL (TKO-OT-30)	100 mL (TKO-OT-100)	15-25°C
Iron chloride, solution	30 mL (FK-OT-30)	100 mL (FK-OT-100)	15-25°C
Fuchsin Acid Van Gieson reagent	30 mL (FAG-OT-30)	100 mL (FAG-OT-100)	15-25°C

Additional reagents and materials that can be used in this method

- 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 agent, such as BioClear xylene or its aliphatic hydrocarbon substitutes, such as BioClear New
- Infiltration and embedding agent, such as BioGnost's granulated paraffin BioWax Plus 56/58, BioWax 56/68, BioWax Blue
- Covering agents for microscopic sections and mounting cover glass, such as BioGnost's BioMount, BioMount High, BioMount M, BioMount New, BioMount DPX, BioMount DPX High, BioMount DPX Low, BioMount C, BioMount Aqua
- VitroGnost slides and coverslips for use in histopathology and cytology
- BioGnost's immersion oils, such as Immersion oil, Cedarwood oil, Immersion oils types A and C, FF, 37 or Tropical Grade

Preparation of histological sections for staining

- Fix (Formaldehyde NB 4%, Formaldehyde NB 10%) and process the tissue sample
- Embed the tissue in a paraffin block (BioWax 52/54, BioWax 56/58, BioWax Plus 56/58, BioWax Blue)
- Cut the paraffin block into 4-6 μ m thin slices and mount on a VitroGnost microscope slide

NOTE

Apply the reagent so it completely covers the section.

Histology sample 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 in 100% alcohol (Histanol 100)	2 exchanges, 5 and 3 min
3.	Rehydrate in 95% alcohol (Histanol 95)	2 min
4.	Rehydrate in distilled/demineralized 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/demineralized water	
7.	Add Fuchsin Acid Van Gieson reagent (≥ 5 drops) Note: longer exposure provides a more intense red	7 min
8.	Air dry without rinsing	5 min
9.	Dehydrate in 100% alcohol (Histanol 100)	2 exchanges, 1 min each
10.	Clear in xylene (BioClear) or 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). Cover the sample with a VitroGnost cover glass.

*To avoid fading of the preparation (loss of yellow dye), it is recommended to clear in xylene (BioClear) and use BioMount DPX/BioMount DPX New for mounting/covering.

b) using five-reagent kit, 100 mL (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 in xylene (BioClear) or xylene substitute (BioClear New)	3 exchanges, 2 min each
2.	Rehydrate in 100% alcohol (Histanol 100)	2 exchanges, 5 and 3 min
3.	Rehydrate in 95% alcohol (Histanol 95)	2 min
4.	Rehydrate in distilled/demineralized water	2 min
5.	Mix equal volumes of Trichloroacetic acid, solution and Iron chloride, solution, and immerse the slide	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/demineralized water	
7.	Immerse into Fuchsin Acid Van Gieson reagent	7 min

8.	Air dry without rinsing	5 min
9.	Dehydrate in 100% alcoholu (Histanol 100)	2 exchanges, 1 min each
10.	Clear in xylene (BioClear) or 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). Cover the sample with a VitroGnost cover glass.

*To avoid fading of the preparation (loss of yellow dye), it is recommended to clear in xylene (BioClear) and use BioMount DPX/BioMount DPX New for mounting/covering.

Result

Bilirubin – green

Collagen – red

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

Limitations

This product is intended for professional laboratory use for diagnostic purposes only. Deviations from the staining procedure described in this Instruction for use may cause differences in staining results.

Sample preparation and diagnostics

Use only appropriate instruments for collecting and preparing the samples. Process the samples using modern technology and mark them clearly. Be sure to follow the manufacturer's handling instructions. To avoid errors, staining and diagnosis can only be carried out by qualified personnel. Use a microscope equipped according to medical diagnostic laboratory standards. To avoid an incorrect staining result, it is advised to use a positive and negative control.

If a serious incident occurs during use of this product or as a result of its use, please report it to the manufacturer or authorized representative and competent authority.

Safety at work and environmental protection

Handle the product in accordance with occupational health and environmental protection guidelines. Used and expired solutions must be disposed of as special waste following national guidelines. Reagents used in this procedure can pose a danger to human health. The examined tissue samples are potentially infectious, and it is necessary to take the measures needed to protect human health in accordance with the guidelines of good laboratory practice. It is mandatory to read and act according to the information and warning signs printed on the product label and in the Safety Data Sheet, which is available on request.

Storage, stability, and shelf life

Upon receipt, store the product in a dry place and well-closed original packaging at a temperature of +15 °C to +25 °C. Do not freeze or expose to direct sunlight. After first opening, the product can be used until the specified expiry date, if stored properly. The expiration date is printed on the product label.

References

1. Culling, C.F.A. (1974): Handbook of histopathological and histochemical techniques, 2 ed 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, str. 14-167.
4. Van Gieson, I. (1889): Laboratory notes of technical methods for the nervous system, New York Med. J., 50: 57-60

Warnings and precautions regarding the materials contained in the product:	
	H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H410 Very toxic to aquatic life, with long lasting effects.
	P280 Wear protective gloves/protective clothing/eye protection/face protection. P303+P335+P334 IF ON SKIN: brush off loose particles from skin. Immerse in cool water [or wrap in wet bandages]. P305+P351+P338 IF IN EYES: rinse carefully with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. P333 + P313 If skin irritation or rash occurs: get medical advice/attention.

FVG-IFU_ENV3, 24.02.2026., IŠP

 Manufacturer	 Batch code	 Temperature limit	 <i>In vitro</i> diagnostic medical device	 Unique device identifier
 Date of manufacture	 Catalogue number	 Consult instructions for use	 Contains sufficient for <n> tests	
 Use-by date	 Fragile, handle with care	 Caution	 European conformity	

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Version	Description / reason for change	Date
3	Revised acc. to Regulation (EU) 2017/746 - IVDR	24.02.2026.