

# **Perls - Van Gieson (method for ferric and connective tissue), Kit**

Reference: AP0509



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## **INTENDED USE AND PRESENTATION:**

For *in vitro* diagnostic use.

AP0509. 100 Tests.

## **APPLICATIONS:**

The Perls-Van Gieson kit was designed to show ferric iron, collagen and connective tissue in sections.

The interpretation of the stain results is the full responsibility of the user. Any experimental result must be confirmed by a medically established diagnostic product or procedure.

## **PRODUCT COMPOSITION:**

The Perls-Van Gieson kit is composed by:

Reagent	Name	Volume	Storage
A	Potassium ferrocyanide solution	30 mL	15-25 °C
B	Activation acid solution	30 mL	15-25 °C
C	Van Gieson picrofuchsin solution	30 mL	15-25 °C

## **METHODS AND PROCEDURE:**

**Principles of the method:** Potassium ferrocyanide reacts with ferric ions of hemosiderin in acid environment to form a coloured salt: Prussian blue. Reaction takes place in ionic form as follows:  $4 \text{ Fe} + 3 \text{K}_4\text{Fe}(\text{CN})_6 = \text{Fe}_4(\text{Fe}(\text{CN})_6)_3 + 12 \text{ K} + \text{Prussian blue}$ . A counterstain with Van Gieson picrofuchsin differentiates collagen from connective tissue.

False positive reactions are due to 3 main causes:

- Solution is too old (ferrocyanide-hydrochloric acid solution should be prepared just before use)
- Ferric ions contaminate glassware or the flotation bath's water (rust). To avoid this, never touch solution with metallic objects
- Asbestosis: asbestos can be present in pathologic tissues and ferric salts on its fibers can react positively

**Specimen:** Paraffin-embedded tissue samples should be used.

**Procedure time:** 30 minutes.

### **Staining procedure:**

- 1) Deparaffinize and hydrate for paraffin section.
- 2) Put the slide in distilled water.
- 3) Mix in 1:1 ratio **Reagent A** and **Reagent B**, incubate sections for 20 minutes.
- 4) Wash with distilled water.
- 5) Counterstain sections with 5 drops of **Reagent C** for 10 minutes.
- 6) Wash with distilled water.
- 7) Dehydrate with alcohols of increasing clear in xylene and mount.

See our web site at [www.gennova-europe.com](http://www.gennova-europe.com) for detailed protocols ancillary reagents and support products.

## **EXPECTED RESULTS:**

During the reaction of the different solutions of the kit with the tissue sections, resulting in the following stains:

Ferric reactive iron	Blue
Collagen	Purple red
Cytoplasm, muscle, horny layer of the skin, neuroglia and erythrocytes	Yellow

## **REQUIRED MATERIALS BUT NOT SUPPLIED:**

All reagents, materials, and laboratory equipment for this procedure are not provided with this kit. This includes adhesive slides and cover slips, positive and negative control tissues, xylene or adequate substitute, ethanol, distilled H<sub>2</sub>O, pipettes, Coplin jars, glass jars, moist chamber, histological baths, mounting materials, and microscope.

Buffered solutions for and other auxiliary reagents are available from Genova Scientific.

## **STORAGE AND STABILITY:**

Store at 15-25 °C until the expiration date printed on product label. Do not use after the expiration date. Keep the containers tightly closed. After the first opening, the product is usable until the expiry date stated on label of intact product. Waste from solutions must be disposed under the procedure of hazardous substance. If the product is stored under different conditions from those stipulated in these technical indications, the new conditions must be verified by the user.

Genova Scientific guarantees that the product will maintain all of the described characteristics from the production date until the expiration date, as long as the product is stored and used as recommended. No other guarantees are provided. Under no



Catalog number



Batch code



In Vitro diagnostic medical device



Temperature limitation



Expiration date



Test number



Manufacturer



See instruction for use



**Genova Scientific, S.L.**  
C/ Johann Gutenberg, 4F. Pol. Ind.  
El Cañamo I • 41300 San José  
de La Rinconada • Sevilla, SPAIN  
Teléfono: +34 954 150767  
Fax: +34 955 266494

[info@gennovalab.com](mailto:info@gennovalab.com)  
[www.gennova-europe.com](http://www.gennova-europe.com)

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circumstances is Genova Scientific obliged to cover damages caused by use of this reagent.

## **TROUBLESHOOTING:**

If unusual staining is observed or any other deviations from the expected results, please read these instructions carefully, and if this does not solve the problem, please contact Genova Scientific's technical support department or your local distributor.

## **PRECAUTIONS:**

Use only by qualified personnel. Read with attention the information written on the label (dangerous symbols, risks and safety phrases). Consult always the safety data sheet (MSDS) where the information about the risks of the preparation, precautionary measures during use, first aid and disposal are available. Use proper protective equipment in order to avoid contact with reagents and samples in the eyes, skin, and mucosal tissues. MSDS is available upon request.

## **PERFORMANCE CHARACTERISTICS:**

Genova Scientific has performed studies to evaluate the functioning of this product, concluding that the product is both specific and sensitive for recommended use.

## **BIBLIOGRAPHY:**

Perls M. Nachweis von Eisenoxyd in gewissen Pigmenten. Virchow's Arch Pat Anat und Phsiol und Klin Med 1867; 39: 42-48.  
Van Gieson I. Laboratory notes of technical methods for the nervous sistem. New York Med J 1889; 50: 57-60.  
A.F.I.P.. Laboratory Methods in Histotechnology. Washington D.C. A.F.I.P. 1994.

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**Genova Scientific, S.L.**  
C/ Johann Gutenberg, 4F. Pol. Ind.  
El Cañamo I • 41300 San José  
de La Rinconada • Sevilla, SPAIN  
Teléfono: +34 954 150767  
Fax: +34 955 266494



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