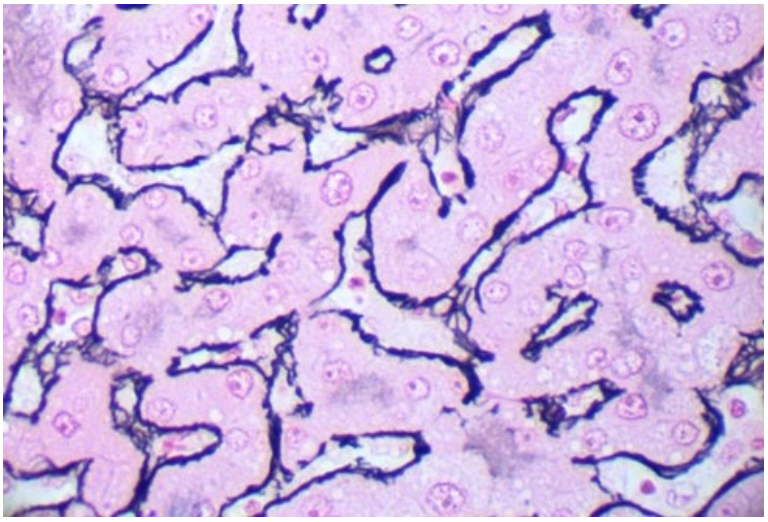
Bio - Optica
Improving Pathology

Data Sheet

CE

GORDON - SWEET



Liver

CODE	DESCRIPTION	TESTS NUMBER
04-040802	Gordon Sweet	100 test

IVD In Vitro Diagnostic – medical device
IVD in **Class A**, Reg. UE 2017/746
UDI-DI: 08033976230708
Basic UDI: 080339762W01030799Y5

Manufacturer: Bio-Optica Milano S.p.A.

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Product for the preparation of cyto-histological samples for optical microscopy.
Recommended method to show argyrophilic reticular fibres in connective tissue.

PRINCIPLE

This method produces a selective evident impregnation in a very short time thanks to two factors: the preliminary impregnation with an iron salt and the use as silver source of an unstable diaminic complex (ammoniacal solution), which is more reactive than silver nitrate.

1) Pre-treatment with trivalent iron.

After a preparatory oxidation with potassium permanganate, the section is treated with trivalent iron (ferric ammonium sulphate). Iron ions, more reactive than silver ions, quickly bind affine functional groups in argyrophilic structures.

2) Treatment with ammoniacal solution.

Silver is present in ammoniacal solution in the form of complex hydrosoluble oxide - $[Ag(NH_3)_2]_2$ O. This complex silver cation replaces iron previously bound to tissues. In the next step, formic aldehyde acts as reducing agent: it removes oxygen from the complex and releases metallic silver that deposits on argyrophilic structures.

$$[Ag(NH_3)_2]_2 O + HCHO = 2 Ag + 4 NH_3 + HCOOH$$

Any excess silver in the unprecipitated state is removed by treating with gold chloride
Unreduced silverdiamine cation is then removed by sodium thiosulfate (Na2S2O3). Both form a complex, which is highly soluble but cannot be oxidized any more. A nuclear red staining completes the method.

WARNING

For good results, follow these rules:
- Always use excellent and chlorine-free distilled or deionized water.
- Use only perfectly clean glassware.
- Avoid deposit of dust on sections. Never touch solutions with metallic objects (tweezers etc.)

METHOD

1) Bring the section to distilled water.
2) Put on the section 5 drops of reagent A and 5 drops of reagent B: leave to act 5 minutes.
3) Wash the slide in distilled water.
4) Put on the section 10 drops of reagent C: leave to act 1 minute.
5) Double washing in distilled water.
6) Put on the section 10 drops of reagent D: leave to act 3 minutes.
7) Double washing in distilled water.
8) Put on the section 10 drops of reagent E: leave to act 3 minutes.
9) Wash in distilled water.
10) Put on the section 10 drops of reagent F: leave to act 5 minutes.
11) Double washing in distilled water.
12) Put on the section 10 drops of reagent G: leave to act 2 minutes
13) Wash in distilled water.
14) Put on the section 10 drops of reagent H: leave to act 2 minutes
15) Wash in distilled water
16) Put on the section 10 drops of reagent I: leave to act 5 minutes
17) Dehydrate through ascending alcohols: clear in xylene and mount.

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Technical details

Method specifications	Procedure time	40 minutes	
	Complementary equipment	Not requested	
	Results	Reticular and nervous fibres:	Black
		Nuclei:	Red
Components	A) Potassium permanganate solution	18 ml	
	B) Acid activation buffer	18 ml	
	C) Oxalic acid solution	30 ml	
	D) Ferric ammonium sulphate solution	30 ml	
	E) Ammoniacal silver solution	30 ml	
	F) Formalin solution	30 ml	
	G) Gold chloride solution	30 ml	
	H) Sodium thiosulphate fixing solution	30 ml	
	I) Nuclear Fast Red solution	30 ml	
Storage	Storage	Store the preparation at room temperature. Keep the containers tightly closed.	
	Storage temperature	2 - 8°C	
	Stability	After the first opening, the product is reusable until the expiry date, if correctly stored.	
	Validity	1 year	
Warning	Product classification	The product is intended for professional laboratory use for healthcare professionals. Carefully read the information on the label (danger symbols, risk and safety phrases) and always consult the safety data sheet. Do not use if the primary container is damaged. In the event of a serious accident, we recommended that you immediately inform Bio-Optica Milano S.p.A and the competent authorities.	
	Disposal	Hazardous preparation: observe all state and local environmental regulations regarding waste disposal.	

REVISION n°	REASON	REVISION DATE
001	Regulation adjustment UE 2017/746 - IVDR	16/05/2022

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