

**Twort's stain**

*Staining protocol for visualization of bacteria in tissue sections*

**Manufacturer: Diapath S.p.A.**

**Use**

Reagents for diagnostic use in vitro

Code	Test	Reagents	Code	Packaging
		Crystal violet acc. Gram Weigert	C017AA	1x30 ml
010310	100	Iodine solution acc. Gram	G008AA	1x30 ml
		Alcoholic Neutral Red 1%	C121AA	1x100 ml
		Alcoholic Green Light 0.2%	C122AA	1x30 ml

**Description**

The kit supplies reagents according to Twort stain. it's a change of Gram stain procedure characterized by a contrast mixture consisting of Neutral Red and Fast Green.

**Specimen and preparation kind**

- Preparation: Paraffin section
- Suggested fixative: Formalin
- Control: Cecal appendix
- Storage temperature: +15°/+25°C
- Procedure time: 15 min
- Critical step: Use Twort solution soon after preparation

**Staining protocol**

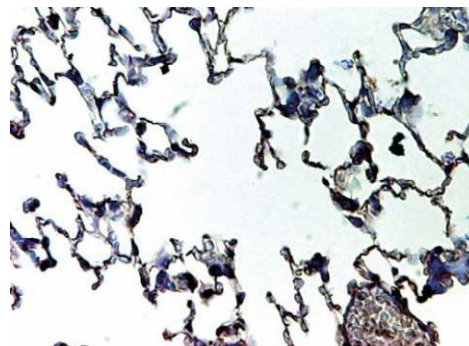
Drain reagents directly on section in a way to cover it completely.

To avoid section excessive drying, use an incubator wet box

1. Deparaffinize and hydrate to distilled water
2. Cover the sections with **Crystal violet acc. Gram Weigert** for 3 minutes
3. Wash in distilled water
4. Cover the sections with **Iodine solution acc. Gram** for 3 minutes
5. Wash in distilled water
6. Leave it dry in the open air
7. Wash quickly in distilled water
8. Cover the section for 5 minutes with TWORT solution composed by:
  - 9 ml of **alcoholic Neutral Red 1%**
  - 1 ml of **alcoholic Green Light 0.2%**
  - 30 ml of distilled water
9. Wash quickly in distilled water
10. Dehydrate quickly in absolute ethyl alcohol, clear and mount with balsam

## Results

- GRAM+ bacteria: Blue-black
- GRAM- bacteria: Red-pink
- Nuclei: Red-violet
- Erythrocytes and cytoplasm: Green



## Quality control

The products and the raw materials are entered and constantly monitored by computer systems that allow traceability between batch number of each single product and batches of their raw materials.

## Instructions of use

To avoid mistakes, the product should be used by qualified and trained staff. Professional use product. The guidelines concerning safety on the workplace must be applied according to current regulations. The tools used for diagnosis must be suitable for diagnostic use in laboratory. The diagnosis should be performed only by authorized, trained and competent staff. Control sections should be used during each test to avoid incorrect results.

## Storage

Store the product according to the specifications listed on the label. The product, if opportunely stored and integrally packed, is stable up to the expiry date reported on the label. Do not use after expiration date.

If the reagent is not stored as recommended, its performance may change and must be validated by the user. After opening, the reagent is stable up to expiration date but only if stored in its container and in accordance with the specifications listed on the label. It is recommended to close the container tightly after the use.

## Disposal instruction

The expired and/or unused product must be disposed according to local waste regulations, based on danger classification on the label and after possible contaminations evaluation. In some cases it may be necessary an analytical evaluation to determine the correct waste classification and the danger features.

## Labeling legend



Batch n.



Manufacturer



Storage temperature limits



Product code



Expiry date



In vitro diagnostic medical device



Photosensitive

For more information see the MSDS.