

TB-STAIN QUICK KIT

IVD *In vitro* diagnostic medical device



Three-reagent kit for staining acid fast bacteria according to Kinyoun-Gabbett INSTRUCTIONS FOR USE

REF Product code: TBQ-K-100 (3x100 mL) TBQ-K-250 (3x250 mL) TBQ-K-500 (3x500 mL)

Introduction

Many bacterial cells are easily stained by using simple dyes or Gram stain. However, a few strains of bacteria, such as *Mycobacteria* and *Nocardia* cannot be stained using simple dyes (the results may vary significantly if successfully stained). Cellular wall of the Mycobacteria strain contains waxy substance - mycolic acid. Those are beta-hydroxy carboxylic acids with chains containing up to 90 carbon atoms. Its resistance to acidity is associated with mycolic acid chain length. In order to stain such strains, a higher concentration of dye or a longer period of heating is required. However, once stained, the dye is even more difficult to remove from the cells. Those bacteria are called acid resistant because they maintain their primary color even after decolorization using acid alcohol (Carbol Fuchsin). Early laboratory diagnosis of tuberculosis is based on the interpretation of stained smears, and one of the best diagnostic methods is analyzing sputum sample under microscope. Method according to Kinyoun-Gabbett is an alternative to Ziehl-Neelsen method of detecting tuberculosis bacteria. The Kinyoun-Gabbett method does not require heating the glass slide containing the sample. This method uses Carbol Fuchsin as main dye, and Armand reagent as counterstain. BioGnost's TB-Stain Quick kit contains TB Carbol Fuchsin reagent, TB Decolorizer, and TB Armand reagent.

Product description

- **TB-STAIN QUICK** - Three-reagent kit for staining acid-fast bacteria according to Kinyoun-Gabbett.

The kit contains:	3 x 100 mL (TBQ-K-100)	3 x 250 mL (TBQ-K-250)	3 x 500 mL (TBQ-K-500)
TB Carbol Fuchsin reagent	100 ml (TBC-OT-100)	250 ml (TBC-OT-250)	500 ml (TBC-OT-500)
TB Decolorizer	100 mL (TBD-OT-100)	250 mL (TBD-OT-250)	500 mL (TBD-OT-500)
TB Armand reagent	100 mL (TBAR-OT-100)	250 mL (TBAR-OT-250)	500 mL (TBAR-OT-500)

Other slides and reagents that may be used in staining:

- Glass slides used in microbiology, such as VitroGnost ECONOMY GRADE or glass slides used in cytology, such as VitroGnost STANDARD GRADE or high quality glass slides used in histopathology, such as VitroGnost SUPER GRADE or one of more than 30 models of VitroGnost glass slides.
- BioGnost's immersion media, such as Immersion oil, Immersion oil, types A, C, FF, 37, or Immersion oil Tropical Grade

Preparing the sample for staining

- Transfer the sample on a clean glass slide using a sterilized smear loop.
Note: Acceptable samples include sputum, lumbar puncture sample or sputum sediment.
- Spread the sample evenly across the glass slide using 1-2 drops of saline solution.
- Fix the sample using the Bunsen burner after drying by wriggling the glass slide through the cone of flame for 2-3 times.
Note: Samples can be fixated in an oven at temperature 100°C-110°C for 20 min.
- Cool the glass slide and begin the process of staining.
Note: If the sample is a histological section, it should be processed using standard histological methods.

Sample staining procedure

1.	Cover the samples completely with the TB Carbol Fuchsin reagent.	5 min
2.	Rinse with tap water until the dye destains.	
3.	Cover the sample using TB Decolorizer and let it set for 15-30 seconds (depending on the sample thickness). Note: using TB Decolorizer results in more specific staining. When staining thin layer smears, this step can be omitted	15-30 seconds
4.	Rinse with tap water.	
5.	Completely cover the samples with TB Armand reagent.	3 min
6.	Dip the slide quickly few times in tap water.	
7.	Dry the slide.	

Result

Acid fast bacteria - red
Background - blue

Note

Microbiology staining procedures are not standardized and they depend on standard operating procedures of individual laboratories and the experience of the personnel conducting the staining procedure. Intensity of staining depends on the period of immersion in the dye. Depending on personal requests and standard laboratory operating procedures, sample processing and staining can be carried out according to other protocols.

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 TB-Stain Quick kit in a tightly sealed original packaging at temperature of +15°C to +25°C. Do not keep in cold places, do not freeze and avoid exposing to direct sunlight. Date of manufacture and expiry date are printed on the product's label.

References

1. Ziehl, F. (1882): Zur Färbung des Tuberkelbacillum. Deutsche Medizinische Wochenschrift, V8, p 451.
2. Neelsen, P. (1883): Zentralblatt für die Medizinischen Wissenschaften, V21, p 497
3. Madison, B. (2001): Application of stains in clinical microbiology. Biotech Histochem 76 (3): 119-25.
4. Ryan, K.J., Ray, C.G. (editors) (2004). Sherris Medical Microbiology (4th ed.). McGraw Hill.

TBQ-X, V7-EN6, 01 June 2020, VR/IŠP

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



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

