

# CARBOL FUCHSIN GRAM 10X CONCENTRATED

IVD In vitro diagnostic medical device



## Concentrated Carbol Fuchsin solution for preparing contrasting solution for modified staining acc. to Gram

### INSTRUCTIONS FOR USE

REF Product code: CFGR10-OT-100 (100 mL)

CFGR10-OT-500 (500 mL)

CFGR10-OT-1L (1000 mL)

#### Introduction

Gram staining is a method of differentiating bacterial species and it is commonly known and used in microbiology. It is also one of the most frequently used diagnostic methods in hospital and clinical laboratories. Gram staining differentiates bacteria into two groups: Gram-positive and Gram-negative. That division is based on the two groups' bacterial membrane structural differences, i. e. their capability of retaining the dye. BioGnost's Carbol Fuchsin Gram 10x concentrated must be diluted before use and it is used for counterstaining of bacterial strains that do not retain their primary dye, i.e. Gram-negative bacteria. That enables differentiating the blue and purple-colored Gram-positive bacteria from the red-colored Gram-negative bacteria.

#### Product description

- **CARBOL FUCHSIN 10X CONCENTRATE** - Solution for modified counterstaining acc. to Gram

#### Other preparations and reagents that may be used:

- Primary differential Gram staining dye solution, such as BioGnost's Gram Crystal Violet 1% or Gram Crystal Violet 0.4% solution
- Iodine solution used in differentiating Gram staining, such as BioGnost's Gram Lugol solution, stabilized or Gram Lugol solution
- Destaining solution used in differentiating Gram staining, such as BioGnost's Decolorization solutions 1, 2 or 3
- 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 oils, such as BioGnost's Immersion oil, Cedarwood oil, Immersion oils types 37, A, B, FF and NVH

#### Preparation of solutions

##### Working Carbol Fuchsin solution

- Mix 10 ml of Carbol Fuchsin 10x concentrate solution with 90 ml of distilled (demineralized) water

##### Preparing the sample for staining

- Transfer the sample on a clean glass slide using a sterilized smear loop.  
Note: Bodily fluids, discharge, pus, and liquid or solid bacterial culture can be used as samples.
- Spread the sample evenly across the glass slide using 1-2 drops of saline solution
- Fixate the sample using the Bunsen burner after drying by wriggling the glass slide through the cone of flame for 2-3 times
- Cool the glass slide and begin the process of staining

##### Sample staining procedure

1.	Staining with Gram Crystal Violet 1% solution. Note: BioGnost's Gram Crystal Violet 1% solution can be used instead of Gram Crystal Violet 0.4% solution.	1 min
2.	Pour excessive dye off the section	
3.	Rinse the section quickly using stabilized Gram Lugol solution. Note: It is also possible to use (non-stabilized) Gram Lugol solution.	
4.	Fixate the dye by treating the section using the stabilized Gram Lugol solution	1 min
5.	Rinse the section carefully using distilled/demi water until all the iodine is removed. Pour excessive water off the section	
6.	Treat the preparation using Gram Decolorizer 2 solution. End the process when the section turns grey-blue. Note: It is possible to use Gram Decolorizer solutions 1 and 3. Caution! Gram Decolorizer 3 solution reacts extremely quickly. By overtly treating with Decolorizer solution, the dye will be washed away from Gram-positive bacteria as well.	10-15 seconds
7.	Rinsing in distilled (demi) water	5 seconds
8.	Treat the preparation using working Carbol Fuchsin solution	1 min
9.	Rinse the section carefully with distilled (demi) water	
10.	Dry the section using filter paper or let it dry by air	
11.	Add 1 drop of Immersion oil on the section	
12.	Examine the section under immersion lens	

#### Result

Gram-positive bacteria - blue-purple

Gram-negative bacteria - red

#### 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 use. 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. In order to avoid an erroneous result, a positive and negative check is advised before application.

### 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 which is available on demand.














### Storing, stability and expiry date

Keep Carbol Fuchsin 10x concentrate in a tightly sealed original packaging at temperature between +15°C to +25°C. Keep in dry 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. Carson, F. L., Hladik, C. (2009): *Histotechnology: A Self-Instructional Text*, 3<sup>rd</sup> ed., Chicago: ASCP Press
2. Kiernan, J. A. (2008): *Histological and Histochemical Methods*, 4<sup>th</sup> ed., Bloxham: Scion Publishing Ltd.

CFGR-OT-X, V4-EN5, 15 November 2019, 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](http://www.biognost.com)

