

CRYSTAL VIOLET powder dye, C.I. 42555

IVD *In vitro* diagnostic medical device CE

Gentian Violet, Methyl Violet 10B, BSC certified dye For bacterial staining according to Gram

INSTRUCTIONS FOR USE

REF Catalogue number: CRV-P-25 (25 g) CRV-P-50 (50 g)

Introduction

Staining procedure according to Gram is used for differential bacterial staining in order to differentiate between Gram-positive and Gram-negative bacterial strains. Membrane structure is the characteristic that differentiates between these two types. Gram-positive bacteria have thick, single layer membrane with cross-checked polysaccharides and it is easy to stain with Crystal Violet dye; Gram-negative bacteria membrane have thin layer of polysaccharides covered with a layer of lipids that make staining with Gram dyes impossible. The membrane's chemical composition also determines what medicine will affect the bacteria best. Determining the bacterial strain, that is, if it is Gram-negative or Gram-positive strain enables the choice of the most effective antibiotic drug. Certain antibiotic drugs have effect on Gram-positive bacteria (such as penicillin), while others have effect on Gram-negative bacteria (such as tetracycline, streptomycin). Crystal Violet may also be used for staining amyloids and chromosomes.

Product description

- **CRYSTAL VIOLET** - Biological Stain Commission (BSC) certified powder dye for preparing the solution for differential staining of bacteria according to Gram.

Other preparations and reagents used in preparing the dye solution:

- Ammonium oxalate [(NH₄)₂C₂O₄·H₂O]
- Denatured 95% ethyl alcohol, such as BioGnost's Histanol 95

Preparing the solutions for staining

1% solution of ammonium oxalate:

- Dissolve 1 g of ammonium oxalate in 100 ml of distilled/demineralized water.

Crystal Violet staining solution:

- Dissolve 2 g of Crystal Violet powder dye in 20 ml of 95% ethanol (Histanol 95) and mix with 80 ml of 1% aqueous solution of ammonium oxalate.

Result

Gram-positive bacteria - blue-purple

Gram-negative bacteria - red to purple

Note

The mentioned formulation is only one of the ways of preparing the dye solution. Crystal Violet dye is most commonly used according to Gram method. Depending on personal requests and standard laboratory operating procedures, the dye solution can be prepared 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. 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.














Storing, stability and expiry date

Keep Crystal Violet powder dye in a tightly closed original package at temperature between 15°C and 25°C. Keep in dry places, do not freeze and avoid exposure to direct sunlight. Expiry date is stated on the product's label.

References

1. Conn, J. (1977): Biological Stains, 9th ed., Baltimore: Williams and Wilkins Co.
2. Kiernan, J. A. (2008): Histological and Histochemical Methods, 4th ed., Bloxham: Scion Publishing Ltd.

CRV-P-X, V1-EN1, 24 April 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				

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