WRIGHT'S STAIN powder dye

IVD *In vitro* diagnostic medical device CE

Colorants de Wright, BSC certified dye

For staining peripheral blood smears and bone marrow

INSTRUCTIONS FOR USE

REF Catalogue number: WS-P-25 (25 g)

Introduction

In hematology polychromatic Romanowsky dyes are a standard for blood smears and bone marrow staining. Various sorts of Romanowsky dyes (Giemsa, May-Gruenwald, Leishman, Wright, Jenner) contain different ratios of methylene bluing reagent used as the cation component (and the reagent-related thiazine dyes, such as azure B) and eosin Y as the anion component. Cation and anion components interaction creates a well known Romanowsky effect that cannot be achieved if each component is being used individually. Purple color indicates the effect's presence. Staining intensity depends on the azure B content, as well as azure B to eosin Y ratio, while a few other factors affect the result of staining: working solution pH value, fixation method, buffer substance type and dye exposure time. BioGnost's Wright's solution is used for differentiating nuclear and/or cytoplasmatic morphology of thrombocytes, erythrocytes, and lymphocytes in blood smear or bone marrow aspirates.

Product description

- **WRIGHT'S STAIN** - Biological Stain Commission (BSC) certified powder dye for preparing Romanowsky Wright solution.

Other slides and reagents that may be used in staining:

- Glass slides used in hematology, such as VitroGnost STANDARD GRADE or high quality glass slides used in histopathology and cytology, such as VitroGnost SUPER GRADE or one of more than 30 models of VitroGnost glass slides
- VitroGnost cover glass, dimensions range from 18x18 mm to 24x60 mm
- BioGnost's immersion media, such as Immersion oil, Immersion oil, types A, C, FF, 37, or Immersion oil Tropical Grade
- BioGnost's Buffer tablets, pH 6.8 or 7.2
- Fixatives, such as BioGnost's Histanol M

Preparation of solutions

Buffer solution, pH 6.8

- Dissolve 1 pH 6.8 buffer tablet in 1 liter of distilled water while stirring. Filter the solution.
  Note: During the staining process it is possible to use pH 7.2 buffer solution or a combination of pH 6.8 and 7.2 buffer solutions. The process's results can differentiate in shift toward red or blue on the color spectrum.

Preparing the dye solution

Wright's solution

- Dissolve 0.25 g of BioGnost's Wright's stain in 100 mL of methanol while stirring and heating in water bath.

Diluted Wright's solution

- Mix 20 mL of buffer solution, 150 mL of distilled/demineralized water and 30 mL of Wright's solution.

Blood smear staining procedure

- Prepare the peripheral blood smear by draining blood from a fresh blood sample.
- Let the smear dry.
- Immerse the dried blood smear twice in methanol (Histanol M).
- Let the smear dry.
- Stain the section with Wright's solution by immersing it in the solution for 1-3 min
  Note: Immersion period depends on the staining method used. Immerse the sections on the slide for 1 min. Immerse the sections in the Coplin staining jars for 3 min.
- Stain the section using diluted Wright's solution by immersing the section for 6 min.
  Note: Add 1 mL of buffer solution to the Wright's solution, mix and let the section stay immersed in the prepared solution for 4 min.
- Rinse the section using buffer solution.
  Note: Stain the sections in Coplin staining jars twice for 1 min in buffer solution.
- Dry the slide.

Result

Nuclei - red to purple
Lymphocyte plasma - blue
Monocyte plasma - grey-blue
Neutrophil granulocytes - light purple
Eosinophil granulocytes - brick red to red-brown
Basophil granulocytes - dark purple to black
Thrombocytes - purple
Erythrocytes - reddish

Note

Time periods of staining processes are not entirely standardized in clinical and laboratory practical experience. Time periods specified in the instruction approximately correspond to a longtime work practice with optimal results. Intensity of staining depends on the period of immersion in the dye. Real staining protocol depends on personal requests and priorities.

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. Reagents 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 Wright's stain in a tightly closed original package at temperature between 15°C and 25°C. Do not keep in cold places, do not freeze and avoid exposing to direct sunlight. Stability period is 12 months. Expiry date is printed on the product's label.

References

1. Kiernan, J.A. (2008): Histological and histochemical methods: Theory and Practice, 4th ed., Bloxham, Scion Publishing Ltd.
2. Lillie, R.D. (1944): Factors influencing the staining of blood films and the role of methylene violet, J. Lab. Clin. Med. 29, p 1181.
3. Wright, J.H. (1902): A rapid method for the differential staining of blood films and malarial parasites, J. Med. Res. 7(1), p 138-144.

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Refer to the supplied documentation	Storage temperature range	Number of tests in package	REF	Product code	CE	European Conformity	BIOGNOST Ltd. Medjugorska 59 10040 Zagreb CROATIA www.biognost.com	CE
Refer to supplied instructions	Keep away from heat and sunlight	Valid until	LOT	Lot number		Manufacturer		
IVD For *in vitro* diagnostic use only	Keep in dry place	Caution - fragile						