

HAYEM'S SOLUTION

IVD In vitro diagnostic medical device



Solution for manual counting of erythrocytes in microscopy

INSTRUCTIONS FOR USE

REF Product code: HY-OT-100 (100 mL) HY-OT-500 (500 mL) HY-OT-1L (1000 mL)

Introduction

BioGnost's Hayem's solution is used in routine manual counting of erythrocytes. It is important to correctly prepare and dilute the sample of blood in the specified volume during every counting method. Basic advantages of Hayem's solution (compared to other solutions for erythrocyte counting) are isotonicity (no hemolysis occurs), fixation (erythrocytes do not lose their shape, no autolysis occurs, so counting may be conducted a few hours after blood dilution). Hayem's solution also prevents agglutination and has a longer shelf life.

Product description

- **HAYEM'S SOLUTION** – isotonic solution for manual counting of erythrocytes.

Testing sample

- Uncoagulated venous or capillary blood

Other necessary preparations:

- Neubauer or Bürker-Türk's hemocytometer
- RBC pipette
- Cover glass

Preparation

RBC pipette filling

Draw blood into the RBC pipette to the 0.5 mark, then draw Hayem's solution to the 101 mark. Dilution is 1/200. Carefully stir the blood sample and Hayem's solution. Use the preparation within a few hours.

Filling the hemocytometer

Discard the first two drops and then fill the hemocytometer.

Counting under the microscope

Counting is carried out under the microscope with a 10x magnifying factor lens. It is necessary to lower the condenser and move the front lens outwards.

Count the erythrocytes in the center part of the hemocytometer. Four diagonal fields are most commonly counted (64 squares). For more precision, count one peripheral field (total of 80 squares).

Result

Calculation of red blood cells

One side of a square is 1/20 mm in length; depth is 1/10 mm (after positioning the cover glass). Calculate the mean value of erythrocytes per square and then number of erythrocytes in 1 mm³ of blood. Do not omit the dilution factor; multiply the result with 200.

The results are expressed as a mean value of double counting.

Normal erythrocyte values

Females: 3,86- 5.08 x 10¹²/L
Males: 4,34 - 5.72 x 10¹²/L

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 Hayem's solution in a tightly closed original package at a temperature of +15 to +25 °C. Do not freeze and avoid exposing to direct sunlight. Date of manufacture and expiry date are printed on the product's label.

References

1. Nagahashi, H. et al. (2000): Improved Sensitivity in the Measurement of Residual Leukocytes in Platelet Products Using an Automated Leukocyte Counter, *Labile Blood Components and Blood Donation*, 79; str. 34-39.
2. Pal, G.K. et Parvati, Pal. (2006): *Textbook Of Practical Physiology*, 2nd ed., Orient Blackswan.
3. Softić, N. (1988): *Hematološke laboratorijske pretrage*, Tisak Sveučilišna naklada Liber, Zagreb.
4. Teijlingen van, M. E. et al. (2000): In vivo visualization of hemodialysis-induced alterations in leukocyte-endothelial interactions. *Kidney International*, 57; pp 2608-2617.

HY-OT-X, V4-EN4, 22 May 2019, IŠP/VR

	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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