
New Methylene Blue Stain Solution

Cat. No.: N1511106 | Pack size: 50 mL | Storage: Protected from light, Room temperature

Overview

Reticulocytes are transitional cells between late normoblasts and fully mature erythrocytes. Since basophilic RNA substances still exist in their cytoplasm, vital staining with brilliant cresyl blue staining solution will reveal a light blue or dark blue reticular structure in the cytoplasm under microscopic examination. New Methylene Blue Staining Solution is prepared from New Methylene Blue, phosphate, deionized water and other components, and is used for the vital staining and counting of reticulocytes. The results stained with this solution feature a bright and clear background, and are not affected by prolonged over-staining. After staining, reticulocytes exhibit a light blue or dark blue reticular structure. This reagent is for research use only and not intended for clinical diagnosis or any other applications.

Materials to Be Prepared by the User

1. Fresh whole blood or EDTA-anticoagulated whole blood.
2. Small test tubes or centrifuge tubes, glass slides, microscope (oil immersion lens).

Operating Procedures (For Reference Only)

1. Take a small test tube or centrifuge tube and add 2–3 drops of New Methylene Blue Staining Solution.
2. Add another 2–3 drops of fresh whole blood or EDTA-anticoagulated whole blood to it and mix well.
3. Incubate at room temperature for 15–20 minutes or longer.
4. Take one drop of the mixture to prepare a blood smear.
5. Count the number of reticulocytes among at least 1000 erythrocytes under an oil immersion lens.

Staining Results

After staining, the cytoplasm of reticulocytes contains a light blue or dark blue reticular structure.

Calculation

Reticulocyte percentage = Number of reticulocytes counted among 1000 erythrocytes / 1000
Absolute reticulocyte count (cells/L) = Reticulocyte percentage × Erythrocyte count (cells/L)

Precautions

1. This staining method is only applicable for the test tube procedure.
2. Ensure sufficient staining time; do not prepare blood smears immediately after mixing. If the room temperature is low, appropriately extend the staining time or incubate the mixture in a 37 °C constant temperature incubator.
3. Prepare blood smears with a uniform thickness and avoid erythrocyte overlapping to prevent interference with staining effects.
4. Fresh whole blood or EDTA-anticoagulated blood is required for blood cell smear staining.
5. Use the reagent as soon as possible after opening to avoid compromising subsequent experimental outcomes.
6. For your safety and health, wear a lab coat and disposable gloves during operation.

Product Information & Storage

Cat. No.	Product / Component	Pack size	Storage
N1511106	New Methylene Blue Stain Solution	50 mL	Protected from light, Room temperature

Specifications

Attribute	Value
Synonyms	Basic Blue 24 New Methylene Blue N Methylene Blue N
Specifications & Purity	BioReagent, for microscopy, Biological Stain
Stability And Storage	Store at room temperature long term (12 months). Store in the dark.
Storage	Protected from light, Room temperature
Shipped In	Normal
Application	Cell Staining

Quality Control

QC Item	Method	Acceptable Range
Documentation review	Lot-specific COA and product label review	Catalog number, lot number, pack size, storage condition, and release status are consistent with approved records.
Appearance / integrity	Visual inspection on receipt	Container is intact; reagent appearance conforms to lot-specific specifications.
Functional suitability	Application-specific internal QC or reference procedure	Performance meets the approved lot-specific acceptance criteria.

Troubleshooting

Issue	Possible Causes	Corrective Action
Weak or no expected signal / staining / reaction	• Reagent not equilibrated or stored correctly • Insufficient incubation or reaction time • Sample condition outside recommended range	• Verify storage conditions and expiration status • Optimize incubation/reaction time using a positive control • Use fresh or appropriately prepared samples
High background or nonspecific result	• Over-staining or excessive reaction time • Incomplete washing, differentiation, or cleanup • Sample matrix interference	• Shorten staining/reaction time or dilute reagent if applicable • Increase washing/differentiation stringency • Include blank and negative controls
Inconsistent replicate results	• Uneven sample preparation or mixing • Pipetting variability • Temperature or timing variation	• Standardize sample preparation and mixing • Use calibrated pipettes and consistent timing • Run controls with each batch

Recommended Applications

Cell Staining

Contact & Global Offices

Whether you have a technical question, need help with a quotation, or want to inquire about an order, our regional teams are ready to assist. Please contact the office for your region; for general inquiries, the North American office is the corporate primary.

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Limitations & Disclaimer

- ☐ For Research Use Only (RUO). Not for use in human or animal diagnostics, therapeutics, or in vivo applications. Not for food, cosmetic, or household use.
- ☐ This product is not a CE-marked in vitro diagnostic device under IVDR (EU) 2017/746 and is not an FDA-cleared device under 21 CFR. Use is restricted to verified businesses, institutions, and qualified professionals for research and development purposes.
- ☐ Where any product component is classified as hazardous under CLP (EC) 1272/2008 or OSHA HCS (29 CFR 1910.1200), the product Safety Data Sheet (SDS) takes precedence over this document for handling, storage, and disposal information.
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