
Sperm Vital Stain Solution (Eosin Method)

Cat. No.: S1511113 | Pack size: 10 mL | Storage: Room temperature

Overview

Eosin, also known as tetrabromofluorescein, is a xanthene dye among synthetic dyes, appearing as a peach red or pink powder with the molecular formula $C_{20}H_6O_5Br_4Na_2$ and a molecular weight of 691.86. Clinically, sperm viability can be assessed by detecting the integrity of the sperm membrane. Aladdin Sperm Vital Staining Solution (Eosin Method) enables routine viability testing of all sperm samples. It identifies sperm with intact cell membranes via the dye exclusion test, thereby determining the percentage of viable sperm. Composed of eosin, deionized water and other components, this staining solution is based on the principle of dye exclusion: damaged cell membranes, such as those of non-viable (dead) cells, allow impermeant dyes to penetrate and stain the intracellular space, whereas the cell membranes of viable cells can resist the entry of dyes, resulting in the dye exclusion phenomenon with no staining observed. This reagent is for research use only and not intended for clinical diagnosis or any other applications.

Operating Procedures (For Reference Only)

1. Take a clean glass slide, add 1 drop each of fresh semen and Sperm Vital Staining Solution (Eosin Method), and mix well.
2. Cover with a coverslip, let stand for 30–60 seconds, and observe immediately under a high-power microscope (400× recommended).
3. Count 200 sperm cells and calculate the percentage of unstained sperm (viable sperm) among the total 200.

Staining Results

Viable sperm Unstained (white);

Non-viable sperm Red.

Precautions

1. Sperm viability testing should be performed immediately after semen liquefaction, preferably within 30 minutes and no more than 1 hour under any circumstances. Delayed testing may cause sperm inactivation due to dehydration or temperature changes, leading to inaccurate staining results.

2. Use the reagent as soon as possible after opening to avoid compromising subsequent experimental outcomes.
3. For your safety and health, wear a lab coat and disposable gloves during operation.

Specifications

Attribute	Value
Synonyms	Sperm Vital Staining Kit
Specifications & Purity	BioReagent, for microscopy, Biological Stain
Stability And Storage	Store at room temperature long term (12 months).
Storage	Room temperature
Shipped In	Normal
Grade	Biological Stain, BioReagent, for Microscopy
Names and Identifiers	–
Molecular Weight	691.86
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.
- ☐ Performance depends on sample type, sample condition, handling, and operator technique. Users are responsible for validating the product for their specific application.
- ☐ Aladdin product labels, SDS, COA, and approved specifications take precedence over this document. If product formulation, label, SDS, storage conditions, pack size, or quality specifications change, this document should be reviewed and reissued.