

Antacid Staining Solution (Auramine O Fluorescence Method)

Cat. No.: A1510389 | Pack size: 4×100 mL | Storage: Protected from light, Room temperature

Overview

The cell wall of mycobacteria contains a large amount of lipids surrounding the peptidoglycan layer, so mycobacteria are generally difficult to stain. Traditional staining methods require heating and prolonged staining time to facilitate dyeing. Once the mycolic acid in mycobacteria combines with the dye, it is difficult to be decolorized by acid decolorizing solution, hence the name acid-fast staining. The most representative one is the Ziehl-Neelsen staining method for *Mycobacterium tuberculosis*, which is the heat staining method recommended by the WHO. Acid-fast staining solution (Auramine O fluorescent method) belongs to the category of fluorescent staining solutions. It does not require heating and is relatively safer than acid-fast heat staining solution. Its staining principle is as follows: after Auramine O staining and counterstaining at room temperature, the specimen is examined under a fluorescence microscope equipped with an ultraviolet light source. Acid-fast bacilli appear bright yellow, while other bacteria and substances in the background appear dark yellow. This method allows examination under low magnification, thus enabling faster identification of acid-fast bacteria.

Product Components and Storage Conditions

A1510389	Component	4×100 mL	Storage
A1510389A	Auramine O Staining Solution	100 mL	RT. Store in the dark.
A1510389B	Acid Decolorizing Solution	2×100 mL	RT
A1510389C	Counterstain Solution	100 mL	RT. Store in the dark.

Instruments and Materials to Be Prepared by the User for the Test

Inoculation loop, glass slide, distilled water, fluorescence microscope.

Operating Procedures (For Reference Only)

1. Pick the sample to be tested with an inoculation loop, spread it evenly on a glass slide, and fix it by heating.

2. Add Auramine O staining solution dropwise, stain for 10–15 minutes away from light, and then rinse with water.
3. Decolorize with acid decolorizing solution for 3–5 minutes until the smear turns colorless, and then rinse with water.
4. Counterstain with counterstain solution for 2 minutes, and then rinse with water.
5. Gently blot away excess water and allow the smear to air-dry naturally.
6. Examine the smear under a fluorescence microscope.

Staining Results

Acid-fast bacteria: Bright yellow or orange-yellow.

Non-acid-fast bacteria, cells, and background: Dark yellow.

Precautions

1. Tighten the reagent bottle cap immediately after each use to prevent reagent volatilization and contamination.
2. Auramine O is prone to photobleaching; please perform all operations as far away from light as possible.
3. All the above-mentioned reagents are irritating to the human body; please take appropriate protective measures.
4. For your safety and health, wear a lab coat and disposable gloves during operation.
5. This product is intended for research use only and must not be used for any other purposes.

Specifications

Attribute	Value
Synonyms	Acid-fast Bacilli Fluorescent Staining Solution
Specifications & Purity	BioReagent, Biological Stain, for microscopy, Suitable for microbiology
Stability And Storage	Store at room temperature long term (12 months). Store in the dark.
Storage	Protected from light, Room temperature
Shipped In	Normal

Attribute	Value
Application	Microbial 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

Microbial 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.

NORTH AMERICAN SALES, SUPPORT & GENERAL INQUIRIES

Aladdin Scientific Corporation

14078 Meridian Parkway, Riverside, CA 92518, USA

Phone: 1-833-552-7181

Sales: sales@aladdinsci.com

Customer Service: custserv@aladdinsci.com

EU SALES, LOGISTICS & LOCALIZED SUPPORT

Aladdin Biochem Deutschland GmbH

Westring 2, 33142 Büren, Germany

Phone: +02951 9383958

Support: support.eu@aladdinsci.com

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.