

Methanol Congo Red Staining Solution (0.5%)

Cat. No.: M1520403 | Pack size: 100 mL | Storage: Room temperature; protect from light

Overview

Methanol Congo Red Staining Solution (0.5%) is a special histopathology staining reagent mainly used for specific staining of amyloid substances, such as AL-type and AA-type amyloidosis, in paraffin and frozen sections.

Amyloid distribution and morphology can be observed under light microscopy. Under polarized light, amyloid shows characteristic apple-green birefringence, supporting pathological and research evaluation of amyloid deposition.

Key Features

- Ready-to-use 0.5% Congo Red methanol staining solution
- Suitable for paraffin and frozen sections
- Enables light microscopy and polarized-light observation of amyloid substances
- Room-temperature storage with light protection

Contents & Storage

Cat. No.	Component	Size	Storage
M1520403	Methanol Congo Red Staining Solution (0.5%)	100 mL	RT; protect from light

Materials Required But Not Supplied

Item	Recommended Specification	Purpose
Sections	Paraffin or frozen sections	Staining specimen
Xylene and graded ethanol	User-supplied	Deparaffinization, dehydration, and clearing
Alkaline ethanol differentiation solution	0.2% KOH in 80% ethanol	Differentiation
Mayer's hematoxylin	User-supplied	Nuclear counterstain

Item	Recommended Specification	Purpose
Neutral balsam and coverslips	Microscopy grade	Mounting
Light/polarized microscope	Suitable optics	Observation

Protocol

Protocol (Paraffin Sections, Reference Only)

1. Deparaffinize to water: Xylene I 5 min -> Xylene II 5 min -> 100% ethanol 2 min -> 95% ethanol 2 min -> 80% ethanol 2 min; rinse twice with distilled water for 1 min each.
2. Stain in 0.5% methanol Congo Red staining solution at room temperature for 10-20 min. Gently agitate for uniform staining.
3. Differentiate rapidly in alkaline ethanol differentiation solution for 5-10 s. Monitor microscopically until background is nearly colorless and amyloid regions remain red.
4. Wash under running water for 3-5 min to remove residual differentiation solution.
5. Counterstain nuclei in Mayer's hematoxylin for 1-2 min, then rinse under running water until nuclei appear blue.
6. Dehydrate and clear through graded ethanol (95% ethanol 2 min -> 100% ethanol 2 min twice) and xylene 5 min twice.
7. Mount with neutral balsam, apply coverslip, dry, and observe by light or polarized microscopy.

Staining Results

Observation Mode	Expected Result
Light microscopy	Amyloid substances appear orange-red; nuclei appear blue; background is colorless or pale pink
Polarized light microscopy	Amyloid substances show characteristic apple-green birefringence

Storage & Handling

Store at room temperature for up to 12 months and protect from light. Keep tightly closed.

Safety & Precautions

1. Wear a laboratory coat and disposable gloves during operation.

2. This product is for research use only; strictly prohibited for other purposes.

Quality Control

QC Item	Method	Acceptable Range
Appearance	Visual inspection	No abnormal precipitation or discoloration beyond expected reagent color
Staining performance	Positive-control smear or section	Expected target/background staining pattern is observed
Storage condition	Label and storage check	Stored as specified; light-sensitive reagents protected from light

Troubleshooting

Issue	Possible Causes	Corrective Action
Weak amyloid staining	Insufficient staining time or over-differentiation	Increase staining time within range and monitor differentiation carefully
High background	Insufficient differentiation or washing	Optimize differentiation and rinse thoroughly
Loss of birefringence	Improper section thickness or processing	Validate section preparation and use a positive control

Recommended Applications

Amyloid staining · paraffin sections · frozen sections · polarized-light microscopy research

Contact & Global Offices

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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.

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