

Periodic Acid Solution (0.5%)

Cat. No.: P774825 | Pack size: 100 mL | Storage: Store at 2-8°C, Protected from light

Overview

Periodic acid (also known as periodic acid) is a strong oxidizing agent. It oxidizes the 1,2-glycol groups in carbohydrates and related substances to form dialdehydes. The aldehydes react with Schiff reagent to form a fuchsin compound, producing a purplish-red color. Therefore, periodic acid is often used in combination with Schiff reagent for glycogen staining. Since periodic acid can also oxidize other intracellular substances, care should be taken to select the appropriate concentration of periodic acid and oxidation time. The oxidation should be controlled to oxidize glycol groups to aldehyde groups without causing over-oxidation, which is a critical step. Periodic acid solution is suitable for thin tissue sections, especially for oxidizing cultured cells.

Key Features

- ☐ Ready-to-use staining or processing reagent for microscopy workflows as specified in the source file.
- ☐ 0.5% grade/format as specified for this product.
- ☐ Storage condition: Store at 2-8°C, Protected from light.

Kit Contents & Storage

Cat. No.	Component	Size	Storage
P774825	Periodic Acid Solution (0.5%)	100 mL	Store at 2-8°C, Protected from light

Storage: Store at 2-8°C, Protected from light.

Shipped in: Wet ice.

Materials Required But Not Supplied

Item	Recommended Specification	Purpose
Pipettes, centrifuge tubes, and appropriate containers	Clean laboratory grade	Reagent handling
Personal protective equipment	Lab coat, gloves, and eye protection	Safe operation
Application-specific samples and instruments	Prepared according to laboratory protocol	Product use

Specifications

Attribute	Value
Synonyms	0.5% Periodic Acid Aqueous Solution Periodic Acid Reagent (0.5%)
Shipped In	Wet ice
Specifications & Purity	BioReagent, for microscopy, Biological Stain, 0.5%
Stability And Storage	Store at 2-8°C long term (12 months). Store in the dark.
Storage	Store at 2-8°C, Protected from light
Shipped In	Wet ice. This product requires cold chain shipping. Ground and other economy services are not available.

Protocol

Perform routine fixation, usually with 10% formalin, followed by routine dehydration and embedding. Deparaffinize paraffin sections and transfer to distilled water; directly place frozen sections into distilled water.

Rinse twice with distilled water.

Incubate in periodic acid solution at room temperature for 5–8 min, generally not exceeding 10 min. Follow the specific requirements of the experiment for subsequent steps.

Sample Handling

Prepare sections, cells, or plant tissues according to the staining workflow specified in the protocol. Ensure complete washing or pretreatment before applying the staining or preservation solution.

Protect light-sensitive staining reagents and stained samples from strong light where indicated, and avoid drying artifacts unless the protocol specifically requires drying.

Safety & Precautions

1. Deparaffinization of sections should be thorough; otherwise, it will affect the staining result. Staining time for frozen sections should be as short as possible.
2. The oxidation time with periodic acid should not be too long; the optimal temperature for oxidation is 18–22°C.
3. Store sealed at 4°C, and avoid excessive exposure to sunlight and air during use. Before use, it is best to take it out 30 minutes in advance to equilibrate to room temperature, and use it in a dark place protected from light.

4. For your safety and health, please wear a lab coat and disposable gloves during operation.
5. Read the current SDS before use. Wear lab coat, gloves, and eye protection. Handle reagents according to local laboratory safety and EHS procedures.
6. Use clean or sterile consumables as required by the application and avoid contamination during handling.
7. Follow the storage condition on the product label. Protect from light or freezing where specified.

Quality Control

QC Item	Method	Acceptable Range
Appearance	Visual inspection	Clear or expected appearance without leakage, contamination, or abnormal precipitate
Application performance	Representative staining, coating, extraction, or culture workflow	Result is consistent with the product description and lot-specific specification
Storage condition verification	Receipt and storage review	Stored according to product label and protected from light where required

Troubleshooting

Issue	Possible Causes	Corrective Action
Weak or uneven result	- Insufficient sample preparation - Incorrect incubation time or temperature - Reagent stored improperly	- Prepare sample according to protocol - Optimize incubation within recommended range - Verify storage condition and expiry/COA
Background or nonspecific staining/effect	- Incomplete washing or deparaffinization - Over-treatment or over-oxidation - Contaminated water or containers	- Wash thoroughly and prepare sections completely - Shorten treatment time as needed - Use clean containers and fresh water
Product deterioration after opening	- Exposure to air/light or contamination - Repeated temperature cycling	- Keep container sealed and protected from light where required - Use aseptic technique and avoid repeated temperature changes

Recommended Applications

Research applications consistent with the product description and approved specifications.

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 kit 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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