
Pepsin Antigen Retrieval Solution

Cat. No.: G1508982 | Pack size: 100ml | Storage: Store at -20°C

Overview

During tissue preparation, antigens are masked by the effects of chemical reagents, and the peptide chains of some antigens become distorted due to heating. As a result, these antigens cannot be visualized during immunohistochemical staining. To address these issues, the process of re-exposing or restoring these antigens using chemical reagents and heat is called antigen retrieval. Buffers such as citrate, EDTA, or Tris can re-expose antigens masked by formalin under heating conditions without damaging antigenic epitopes, thereby improving antigen detection rates, reducing background staining, and enhancing diagnostic accuracy.

Before the advent of heat-induced antigen retrieval, epitope retrieval induced by enzymes such as trypsin, proteinase K and pepsin was the most commonly used method. This pepsin antigen retrieval solution is mainly prepared by dissolving pepsin in a dilute acid solution. It can expose antigenic epitopes in samples such as paraffin sections, thereby significantly improving the immunostaining effect. Paraffin sections generally require antigen retrieval treatment, while frozen sections do not necessarily need such treatment. Antigen retrieval can enhance the immunostaining effect of paraffin sections and also improve that of frozen sections to varying degrees; antigen retrieval may be considered when the immunostaining effect of frozen sections is unsatisfactory. Based on the calculation of 10 ml of 1× antigen retrieval solution required per slide, 100 ml of the solution can be used for the antigen retrieval of 10 samples. This reagent is for research use only and not intended for clinical diagnosis or any other applications.

Materials to Be Prepared by Users

1. Graded ethanol solutions.
2. Double-distilled water or deionized water.
3. Heating equipment.
4. Immunostaining wash buffer.

Operating Procedures (For Reference Only)

(1) Paraffin Sections

1. Deparaffinization and Rehydration

- ① Deparaffinize sections with xylene or deparaffinization clearing solution for 3 times, 3-5 minutes each time.
- ② Dehydrate with anhydrous ethanol for 2 times, 3-5 minutes each time.
- ③ Treat with 95% ethanol for 3-5 minutes.
- ④ Treat with 90% ethanol for 3-5 minutes.
- ⑤ Treat with 80% ethanol for 3-5 minutes.
- ⑥ Treat with 70% ethanol for 3-5 minutes.
- ⑦ Rinse with distilled water for 2 times, 3-5 minutes each time.

2. Antigen retrieval: Immerse the sections in pepsin antigen retrieval solution and incubate at 37 °C for 10-25 min.

3. Rinse with immunostaining wash buffer or tap water for 1-2 times, 3-5 min each time, and rinse thoroughly.

4. Perform the subsequent immunostaining steps.

(2) Frozen Sections

1. Rinse the sections with immunostaining wash buffer or tap water for 5 min.
2. Antigen retrieval: Immerse the sections in pepsin antigen retrieval solution and incubate at 37 °C for 10-25 min.
3. Rinse with immunostaining wash buffer or tap water for 1-2 times, 3-5 min each time, and rinse thoroughly.
4. Perform the subsequent immunostaining steps.

(3) Other Samples

Operate on other samples with reference to the procedures for paraffin sections or frozen sections.

Precautions

1. Allow the pepsin antigen retrieval solution to return to room temperature before use, and avoid repeated freeze-thaw cycles.
2. When immersing sections in the pepsin antigen retrieval solution, the optimal incubation time should be determined experimentally according to different samples and target proteins.
3. For your safety and health, wear a lab coat and disposable gloves during operation.
4. Use the reagent as soon as possible after opening to prevent adverse effects on subsequent experimental results.

Specifications

Attribute	Value
Available Size(s)	100ml
Specifications & Purity	BioReagent, for microscopy, Suitable for Immunohistochemistry(IHC)
Stability And Storage	Store at -20°C long term (12 months).
Storage Conditions	Store at -20°C
Shipped In	Ice chest + Ice pads
Shipping Note	This product requires cold chain shipping. Ground and other economy services are not available.

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 urgent product quality or safety questions, reference the product catalog number and lot number.

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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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