
Pepsin Antigen Retrieval Kit

Cat. No.: P1509544 | Pack size: 2×100 mL | Storage: Store at -20°C

Overview

During tissue processing, antigens are masked by chemical reagents, and thermal treatment can cause distortion of the peptide chains of some antigens, making them undetectable in immunohistochemical staining. To solve these problems, the process of re-exposing or restoring these antigens using chemical reagents and heat is called antigen retrieval. Buffers such as citrate, EDTA, and Tris, under heated conditions, can re-expose antigens masked by formalin fixative without damaging antigenic epitopes. This improves antigen detection rate, reduces background staining, and enhances diagnostic accuracy.

There are multiple methods of antigen retrieval, which can be briefly divided into two main categories: heat-induced epitope retrieval and non-heating antigen retrieval. Non-heating methods include enzymatic digestion, vacuum-assisted retrieval, acid hydrolysis, etc. Currently, enzymatic digestion is the most commonly used. Enzymatic digestion uses chemical methods to break aldehyde bonds and retrieve antigens. In immunohistology and immunohistochemistry, specimens over-fixed by aldehyde fixatives such as formalin often show excessive aldehyde masking of antigens, which hinders the binding of primary antibodies to antigens. Digestion with protease solution can expose the antigens. Therefore, pepsin solution is commonly used in laboratories for antigen retrieval of tissue sections. This product is for research use only and is not suitable for clinical diagnosis or other applications.

Materials Provided by User

1. Distilled water, PBS phosphate-buffered saline (0.01 mol/L, pH 7.2-7.4).
2. Constant temperature incubator.

Protocol (For Reference Only)

1. Deparaffinize sections with xylene or deparaffinizing solution, then hydrate to water.
2. Incubate sections in H₂O₂ methanol solution for 10 min.
3. Rinse with tap water, then distilled water.
4. Wash with PBS 3 times, 1 min each.

5. Add pepsin antigen retrieval solution onto sections or immerse slides in the solution; incubate for 20 min.
6. Wash with PBS 3 times, 2 min each.
7. Stain according to the selected immunohistochemical staining method.

Precautions

1. Digestion time for antigen retrieval varies greatly depending on tissue fixation method, duration, and intensity. Researchers should adjust accordingly based on staining results to determine the optimal digestion time.
2. Pepsin antigen retrieval solution is a protease preparation. Prolonged storage at room temperature may reduce or abolish enzyme activity; repeated freeze-thaw cycles also cause loss of activity.
3. This product contains no preservatives. Once opened, it is not suitable for long-term storage at 4 °C.
4. For your safety and health, please wear a lab coat and disposable gloves during operation.
5. Please use the reagent promptly after opening to avoid affecting subsequent experimental results.

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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.
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