

## Pepsin Antigen Retrieval Solution (Ready-to-use)

### Introduction

Fixation of cells or tissues with paraformaldehyde, formaldehyde, or other aldehyde-based reagents induces cross-linking between proteins, which masks antigenic sites in the sample and leads to reduced staining signals or even false-positive results in immunostaining. Antigen Retrieval Solution is used for antigen retrieval in aldehyde-fixed samples such as paraffin-embedded sections and frozen sections, effectively removing aldehyde-induced protein cross-links and fully exposing antigenic epitopes in samples like paraffin sections, thereby greatly improving immunostaining results.

Antigen retrieval is typically required for paraffin sections to enhance immunostaining results. For frozen sections, antigen retrieval is optional; however, many studies have shown that it significantly improves staining outcomes, especially when immunostaining of frozen sections is suboptimal. In principle, for any sample fixed with paraformaldehyde, formaldehyde, or other aldehyde-based reagents—whether frozen sections or cell smears—antigen retrieval effectively removes protein cross-links and fully exposes antigenic epitopes, thereby greatly improving immunostaining results.

This product employs a proteolytic antigen retrieval (PIER) method and contains pepsin and other components. It is primarily used for intercellular antigen retrieval and can be applied to paraffin sections, frozen sections, and other samples fixed with paraformaldehyde, formaldehyde, or other aldehyde-based reagents.

### Protocol

- For paraffin sections
  - a. Deparaffinization: Immerse sections in xylene for 3–5 minutes. Replace with fresh xylene and repeat twice (total of 3 xylene washes). Then transfer to absolute ethanol for 3–5 minutes (twice), then to 95% ethanol for 3–5 minutes (once), then to 90% ethanol for 3–5 minutes (once), then to 80% ethanol for 3–5 minutes (once), then to 70% ethanol for 3–5 minutes (once). Finally, wash with distilled water for 3–5 minutes (twice).
  - b. Antigen retrieval: Immerse sections in Pepsin Antigen Retrieval Solution (Ready-to-use) and incubate at 37°C for 10–25 minutes. Allow to cool to room temperature, then wash 1–2 times with Immunostaining Wash Buffer (user-supplied), 3–5 minutes per wash, ensuring thorough rinsing. Then proceed with subsequent immunostaining steps such as blocking.
- For frozen sections

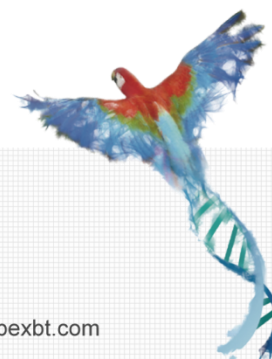
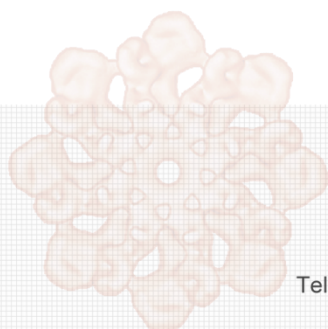
Wash sections with Immunostaining Wash Buffer (user-supplied) for 5 minutes. Immerse sections in Pepsin Antigen Retrieval Solution (Ready-to-use) and incubate at 37°C for 10–25 minutes. Allow to cool to room temperature, then wash 1–2 times with Immunostaining Wash Buffer (user-supplied), 3–5 minutes per wash, ensuring thorough rinsing. Then proceed with subsequent immunostaining steps such as blocking.

■ Other sample types

For antigen retrieval in other sample types, refer to the steps for paraffin sections or frozen sections.

■ **Note**

1. This product should be brought to room temperature before use and repeated freeze-thaw cycles should be avoided.
2. Based on a volume of 10 mL of antigen retrieval solution per slide, 100 mL of the solution can be used for antigen retrieval of 10 samples.
3. Storage Condition: Stored at -20°C for one year.
4. This product is for scientific research use only.



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