

## Pronase Solution (Ready-To-Use)

**REF** / Cat. No.: ZY0008 250 ml

### Instructions for use

#### Intended use

Pronase Solution is a ready-to-use solution developed for enzymatic epitope retrieval on formalin-fixed tissue sections on slides. This procedure (sometimes called PIER, *Protease Induced Epitope Retrieval*) is primarily used in immunohistochemical staining procedures. Proteolytic pre-treatments are also used in protocols for *in situ*-hybridization.

Pronase solution is intended for research use only.

#### Summary and explanations

Immunohistochemical staining procedures consist of sequential incubation steps with blocking solutions, antibodies and secondary reagents, enzymes and chromogenic substrates carried out on tissue sections. These tissue sections are mostly prepared out of formalin-fixed paraffin-embedded tissue blocks. Cellular structures are very effectively stabilised by formalin fixation which results in optimal morphological preservation of the sample.

On the other hand the formalin fixation leads to strong cross-links between proteins. This means that epitopes of antigens are being masked and often are no longer accessible for primary antibodies. In order to enable primary antibodies to bind to antigens the epitopes have to be recovered.

Enzymatic digestion with proteolytic enzymes (PIER) restores structures of the epitopes making them more accessible to specific antibodies. Heat induced epitope retrieval (HIER) in buffer solutions of different compositions and pH-values is another way of recovering epitopes. The primary antibody used determines the appropriate method.

#### Principle of the method

Pronase Solution is a ready-to-use solution for enzymatic epitope retrieval.

#### Reagent provided

**REF** / Cat. No. ZY0008

250 ml **Pronase Solution (Ready-To-Use)**

#### Storage and handling

The solution should be stored in aliquots at -20°C without further dilution. The solution should be aliquoted in order to avoid repeated freeze and thawing. Under these conditions the solution is stable up to the expiry date indicated on the label. Do not use product after the expiry date.

#### Precautions

Use by qualified personnel only. Wear protective clothing to avoid contact of the reagent with eye, skin or mucous membrane. In case of reagent coming into contact with a sensitive area, wash the area with large amounts of water. Material safety data sheets (MSDS) are available upon request.

#### Reagent preparation

Pronase solution is ready-to-use and should be at room temperature prior to use.

#### Procedure

Pronase Solution is suitable for enzymatic epitope retrieval carried out after the dewaxing and rehydration of the tissue sections.

1. Cover deparaffinised and rehydrated tissue sections with ready-to-use Pronase Solution.
2. Incubate for 15 - 20 minutes at room temperature. The optimal incubation time needs to be elaborated by the operator.
3. Rinse carefully (3 x), first with distilled water followed by buffer.
4. Proceed with immunohistological staining as usual.

### Quality control

We recommend carrying out a positive and a negative control with every staining run. The positive control permits the validation of appropriate processing of the sample. If the negative control has a positive result, this points to unspecific staining.

### Troubleshooting

If you observe unusual staining or other deviations from the expected results please read these instructions carefully, contact Zytomed Systems' technical support or your local distributor.

### Expected results

During the reaction of the substrate with horse radish peroxidase or alkaline phosphatase in the presence of a chromogen, a coloured precipitate is formed at the location of the bound primary antibody. This reaction only takes place if the target antigen is existent in the tissue. The chromogen used determines the colour of the precipitate. The analysis is carried out using a light microscope.

### Limitations of the procedure

Immunohistochemistry is a complex technique involving both histological and immunological detection methods. It requires a highly trained histotechnologist. Tissue processing and handling prior to immunostaining, for example variations in fixation and embedding or the inherent nature of the tissue can cause inconsistent results (Nadji and Morales, 1983). Inadequate counterstaining and mounting can influence the interpretation of the results. Zytomed Systems guarantees that the product will meet all requirements described from its shipping date until its expiry date, as long as the product is correctly stored and utilized. No additional guarantees can be given. Under no circumstances shall Zytomed System be liable for any damages arising out of the use of the reagent provided.

### Performance characteristics






Zytomed Systems has conducted studies to evaluate the performance of the reagent. The product has been found to be suitable for the intended use.

August 1, 2017

Rev: A0817

Doc: DBE\_ZY0008

Explanation of the symbols on the product label:

<b>REF</b>	Bestellnummer Catalog Number Reference du catalogue		Verwendbar bis Use By Utiliser jusque		Gebrauchsanweisung beachten Consult Instructions for use Consulter les instructions d'utilisation
<b>LOT</b>	Chargenbezeichnung Batch Code Code du lot		Lagerungstemperatur Temperature Limitation Limites de température	<b>RUO</b>	Nur für Forschungszwecke For Research Use Only Pour la recherche uniquement
<b>IVD</b>	In vitro Diagnostikum In Vitro Diagnostic Medical Device Dispositif médical de diagnostic in vitro		Achtung Warning Attention		Hersteller / Manufacturer / Fabricant Zytomed Systems GmbH • Anhaltinerstraße 16 14163 Berlin, Germany • Tel: (+49) 30-804 984 990 www.zytomed-systems.com