

OmniPrep Solution pH 9.0 (10 X)

REF / Cat. No.: ZUC067-100 100 ml
ZUC067-500 500 ml

Instructions for use

Intended use

OmniPrep Solution pH 9.0 is developed for deparaffinisation of formalin-fixed paraffin-embedded tissue sections on slides. Simultaneously, Omniprep Solution can be used for heat induced epitope retrieval (HIER). This procedure is primarily used in immunohistochemistry.

OmniPrep 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.

There are different ways of epitope unmasking. This can be heat induced epitope retrieval (HIER) in buffer solutions of different compositions and pH-values or enzymatic digestion with proteolytic enzymes. The primary antibody used determines the appropriate method.

Prior to HIER or enzymatic digestion the tissue sections have to be deparaffinised and rehydrated. It is necessary to transfer the tissue sections into an aqueous environment.

Principle of the method

OmniPrep Solution pH 9.0 is a 10fold concentrated buffered solution with additives of detergent and stabilising substances. For preparation of the working strength solution the buffer concentrate is diluted 1:10 with deionised or distilled water. The resulting solution has a pH of 9.0 (8.8 to 9.2).

OmniPrep Solution pH 9.0 is a very efficient solution for deparaffinisation and epitope retrieval in immunohistochemical staining procedures to be used with many different primary antibodies. It leads to considerably stronger signals compared with usually used citrate buffer.

Reagents provided

REF / Cat. No. ZUC067-100

100 ml **OmniPrep Solution pH 9.0**

(10fold concentrated, adequate for 1 litre ready-to-use OmniPrep Solution)

REF / Cat. No. ZUC067-500

500 ml **OmniPrep Solution pH 9.0**

(10fold concentrated, adequate for 5 litres ready-to-use OmniPrep Solution)

Storage and handling

The solution should be stored at 2-8°C. Do not freeze it. Under these conditions the solution is stable up to the expiry date indicated on the label. Do not use product after the expiry date. If stored at room temperature the solution is stable for at least 10 months from the date of delivery. The prepared working strength solution is stable for 1 month, if stored at 2-8°C. A positive and a negative control have to be carried out in parallel to the test material. If you observe unusual staining or other deviations from the expected results which could possibly be caused by this reagent, please contact Zytomed Systems' technical support or your local distributor.

Precautions

Use by qualified personnel only. Wear protective clothing to avoid contact of reagent and specimen with eye, skin or mucous membranes. In case of reagent or specimen coming into contact with a sensitive area, wash area with large amounts of water. Microbial contamination of the reagent must be avoided, since otherwise non-specific staining may occur. ProClin 300 is used for stabilisation. A material safety data sheet (MSDS) is available upon request.

Reagent preparation

Preparation of the OmniPrep Solution pH 9.0 working strength solution:

- Dilute OmniPrep Solution pH 9.0 concentrate 1:10 with deionised or distilled water and mix thoroughly.
- The pH-value should be at 9.0 (8.8 to 9.2). If necessary adjust pH with diluted NaOH or HCl solution.

Procedure

Tissue sections used for de-paraffinisation in combination with HIER should always be placed on adhesive slides. Prepare the working strength solution by diluting the buffer concentrate as described above and transfer to a Coplin jar. Please make sure there is enough volume to cover the tissue sections on the slides completely.

Exemplary short protocols:

- Only deparaffinisation:
Water bath (40 min. 70°C)
- Deparaffinisation with enzymatic pre-treatment afterwards:
Water bath (40 min. 70°C), then enzymatic digestion according to product specifications
- Deparaffinisation combined with heat pre-treatment:
Pressure cooker (10 min. 120°C) or: steamer (30-40 min), microwave oven, water bath (60 min 95°C)

After incubation let hot water (60-70°C) run into the Coplin jar until all OmniPrep Solution pH 9.0 is replaced by hot water. Transfer slides into wash buffer and proceed with immunohistological staining.

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 binding. Please refer to the instructions of the detection system for guidance on general quality control procedures.

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. Also refer to the instructions of the detection systems for guidance on general troubleshooting.

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).

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.

Bibliography













Miller RT et al. Appl Immunohistochem Mol Morphol 8:228-235, 2000
Nadji M and Morales AR Ann N.Y. Acad Sci 420:134-9, 1983

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DBE_ZUC067_100_500

Explanation of the symbols on the product label:

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