

Immunohistochemistry

Fast Enzyme



ZYTOMED[®]
SYSTEMS

Fast enzymes for the pretreatment of paraffin-embedded tissue sections

► Faster pretreatment – stronger signals – simplified handling

For successful staining of formalin-fixed tissue sections with antibodies, epitope unmasking is often necessary. This is usually done by heat treatment in buffer solutions or by digestion with proteolytic enzymes. Various enzymes are suitable for proteolytic digestion, nowadays often referred to as PIER (Protease-Induced Epitope Retrieval). Trypsin, pepsin or proteinase K or pronase are the most commonly used. The choice of enzyme de-

pends on the primary antibody used subsequently. Incubation of the tissue sections with the enzymes is usually carried out at room temperature or at 37°C. The incubation time again depends primarily on the primary antibody. Zytomed Systems offers the Fast Enzyme reagent mixture for the enzymatic pretreatment of paraffin-embedded tissue sections. This solution offers various advantages to the user.

► Fast Enzyme shortens incubation times

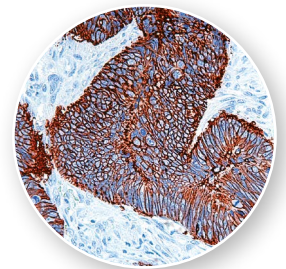
For staining with some primary antibodies, lengthy pretreatments have to be performed. When using Fast Enzyme, the time required is significantly reduced. The shortened enzymatic digestion can

furthermore contribute to better preservation of tissue morphology (e.g., erythrocyte degradation due to long pepsin digestion during collagen IV staining, Fig. right).

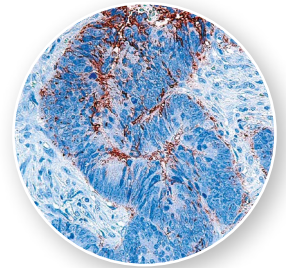
► Stronger stainings achieved with Fast Enzyme

Comparative studies have shown that pretreatment of the preparations with Fast Enzyme instead of other enzyme solutions can significantly increase the signal strength. In some cases, Fast Enzyme can

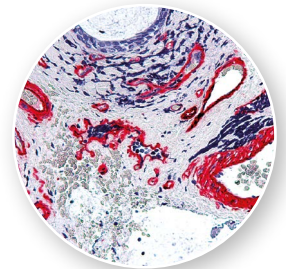
even be used to establish primary antibodies on formalin-fixed paraffin-embedded tissue sections, which previously could only be used on frozen material.



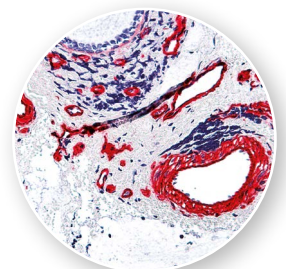
Ber-EP4 with Fast Enzyme
5 minutes at room temperature



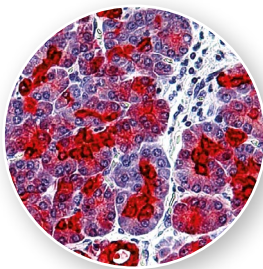
Ber-EP4 with trypsin
10 minutes at 37°C



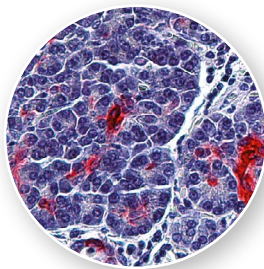
Collagen IV with Fast Enzyme
5 minutes at room temperature



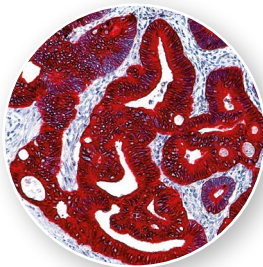
Collagen IV with Pepsin
15 minutes at 37°C and
60 minutes at room temperature



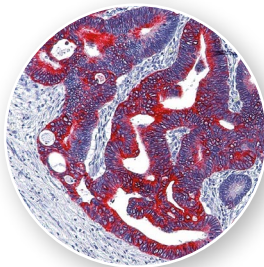
Cytokeratin 7 with
Fast Enzyme
5 minutes
at room temperature



Cytokeratin 7
with Trypsin
10 minutes at 37°C



Cytokeratin 20 with
Fast Enzyme
5 minutes
at room temperature



Cytokeratin 20
with pronase
10 minutes at 37°C

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► Antibodies for pretreatment with Fast Enzymes (selection)

Specificity	Clone	Comments
CD68	PG-M1	works also with other proteases
Cytokeratin 7	OV-TL12/30	works also with citrate buffer pH 6.0 and trypsin, but weaker
Cytokeratin 8	35βH11	works also with pepsin, but weaker
Cytokeratin 18	DC-10	works also with citrate buffer pH 6.0
Cytokeratin 20	Ks20.8	works also with pronase
Cytokeratin HMW	34βE12	works also with citrate buffer pH 6.0 and Pepsin
Desmin	D33	works also with citrate buffer pH 6.0
EGFR	2-1E1	works also with pepsin
ESA, Ep-CAM	Ber-EP4	works also with trypsin and EDTA buffer pH 9.0, but weaker
GCDFP-15	D6	works also with pronase, but weaker
Renal Cell Carcinoma (RCC)	PN-15	also work with other proteases and citrate buffer pH 6.0, but much weaker
S-100	4C4.9	works also with citrate buffer pH 6.0
S-100	SH-B1	works also with Trypsin
Uroplakin III	AU1	works also with citrate buffer pH 6.0

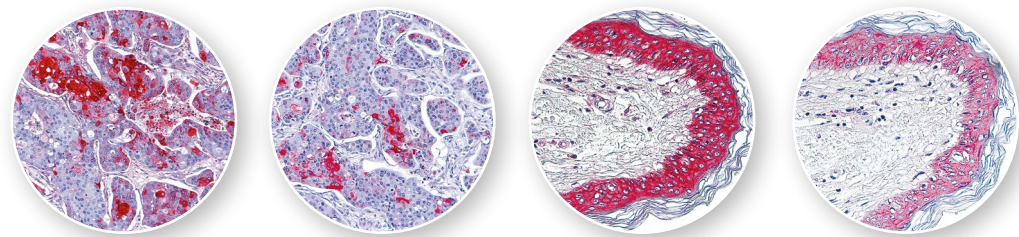
Other advantages of Fast Enzyme

A single solution replaces simultaneously pepsin, trypsin and pronase.

This simplifies daily work and saves space in the immunostainer. Risk of confusion of reagents or slides no longer exists with regard to enzyme pretreatment.

Fast Enzyme is a ready-to-use, stabilized solution.

The portioning, freezing and preparation of enzyme solutions and excess prepared solution no longer needs to be discarded. The reagent is simply dropped onto the slice preparation or added to the reservoir of the automatic staining of the staining machine. Incubation takes place at room temperature.



GCDFP-15 with Fast Enzyme
5 minutes at room temperature


GCDFP-15 with Pronase
10 minutes at 37 °C

EGFR with Fast Enzyme
5 minutes room at temperature

EGFR with Pronase
10 minutes at 37 °C

All pictures ©: Zytomed Systems

► Product information

Description	Status	Format	Art.-No.
Fast Enzyme Solution (ready-to-use)  Zytomed Systems	RUO	15 ml	ZUC059-015

All prices for our products can be found at www.zytomed-systems.de

! Note that the use of a non CE/IVD-labeled reagent will result in a LDT. This must be validated by the user to meet the regulatory requirements of the In-vitro Diagnostics Regulation (EU) 2017/746 (IVDR).

For questions or requests regarding our full portfolio, write an email to international@zytomed-systems.de

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