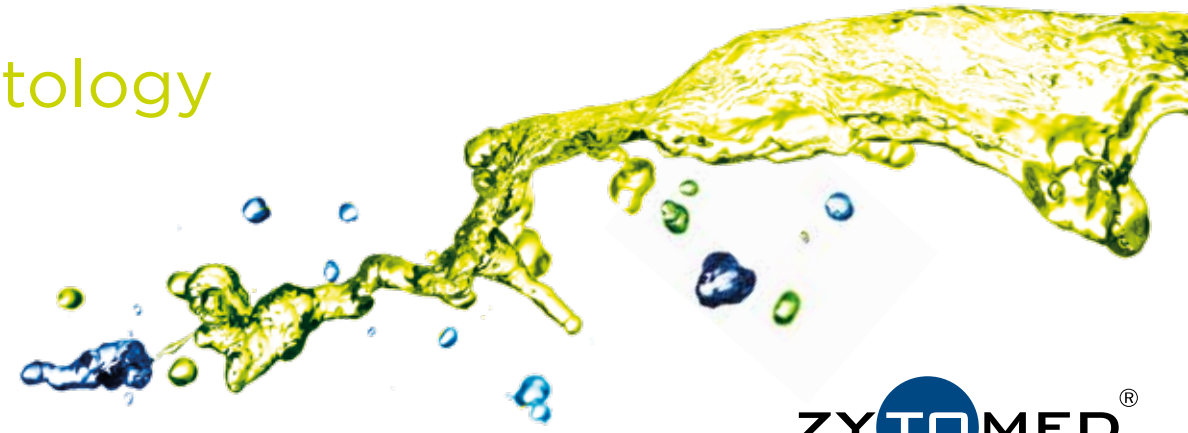
Immunohistology

Fast Enzyme

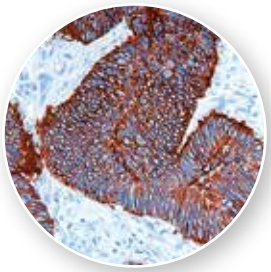


ZYTOMED SYSTEMS

Fast enzymes for the pretreatment of paraffin-embedded tissue sections

Faster pretreatment – stronger signals – simplified handling

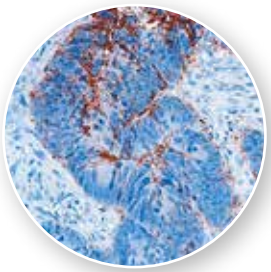
For successful staining of formalin-fixed tissue sections with antibodies, epitope unmasking is often necessary. This is usually done by heat treatment in buffer solutions or by digestion with proteolytic enzymes. Various enzymes are suitable for proteolytic digestion, nowadays often referred to as PIER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



Ber-EP4 with Fast Enzyme
5 minutes room temperature

Fast Enzyme shortens incubation times

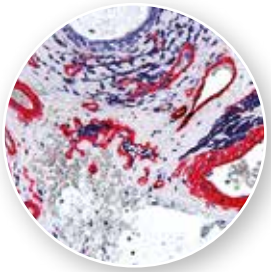
For staining with some primary antibodies, lengthy pretreatments have to be performed. When using Fast Enzyme, the time required is significantly reduced. The shortened enzymatic digestion can furthermore contribute to better preservation of tissue morphology (e.g., erythrocyte degradation due to long pepsin digestion during collagen IV staining, Fig. left).



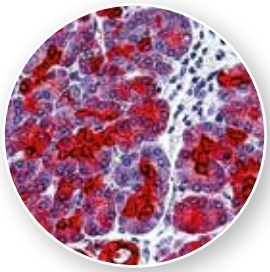
Ber-EP4 with trypsin
10 minutes 37 °C

Stronger stainings achieved with Fast Enzyme

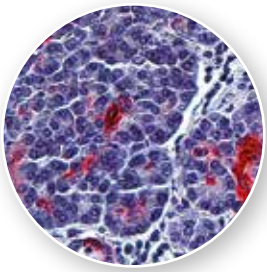
Comparative studies have shown that pretreatment of the preparations with Fast Enzyme instead of other enzyme solutions can significantly increase the signal strength. In some cases, Fast Enzyme can even be used to establish primary antibodies on formalin-fixed paraffin-embeddeed tissue sections, which previously could only be used on frozen material.



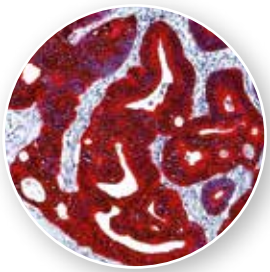
Collagen IV with Fast Enzyme
5 minutes room temperature



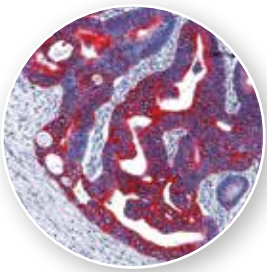
Cytokeratin 7 with
Fast Enzyme
5 minutes
room temperature



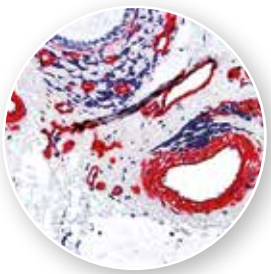
Cytokeratin 7
with Trypsin
10 minutes 37 °C



Cytokeratin 20
with Fast Enzyme
5 minutes
room temperature



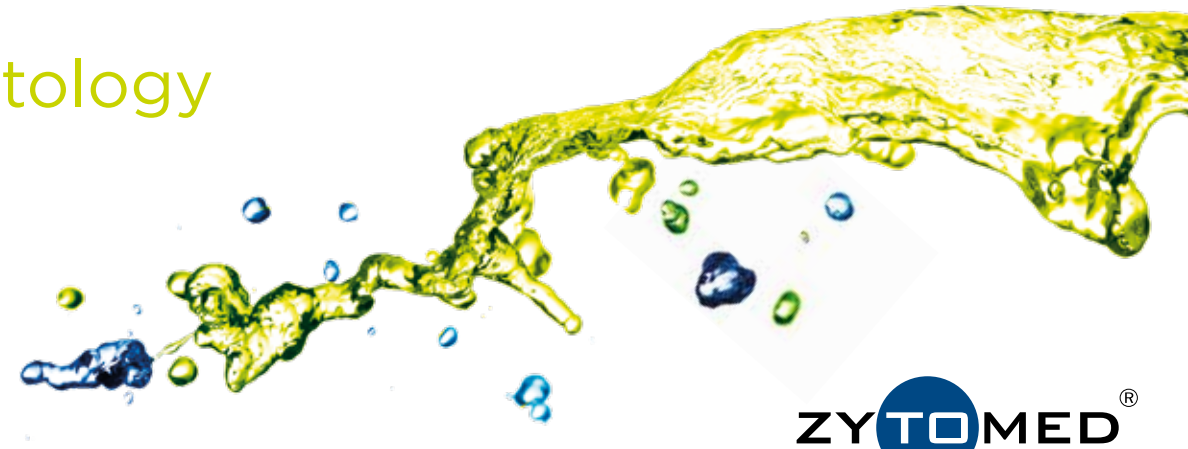
Cytokeratin 20
with pronase
10 minutes 37 °C



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

Immunohistology

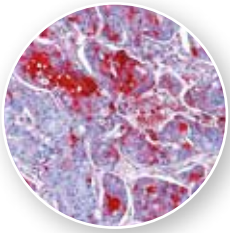
Fast Enzyme



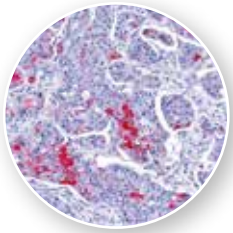
ZYTOMED® SYSTEMS

Antibodies for pretreatment with Fast Enzymes (selection)

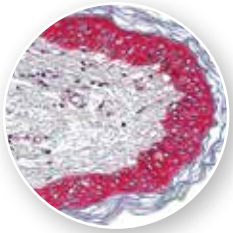
Spezifity	Clone	Comments
CD68	PG-M1	works also with other proteases
Cytokeratin 7	OV-TL12/30	works also with citrate buffer pH 6.0 and trypsin, but weaker
Cytokeratin 8	35βH11	works also with pepsin, but weaker
Cytokeratin 18	DC-10	works also with citrate buffer pH 6.0
Cytokeratin 20	Ks20.8	works also with pronase, pepsin and trypsin, but weaker
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
EGFR	111.6	works also with Trypsin and other proteases
ESA, Ep-CAM	Ber-EP4	works also with trypsin and EDTA buffer pH 9.0, however weaker
GCDFP-15	D6	works also with pronase, but weaker
MAdL	MAdL	works also with pepsin
Renal Cell Carcinoma (RCC)	PN-15	also work with other proteases and citrate buffer pH 6.0, but much weaker
	SPM487	
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



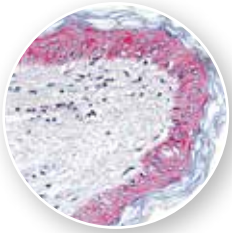
GCDFP-15 with Fast Enzyme
5 minutes room temperature



GCDFP-15 with Pronase
10 minutes 37 °C



EGFR with Fast Enzyme
5 minutes room temperature



EGFR with Pronase
10 minutes 37 °C

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.

Product information

Description	CE/IVD	Format	Art.-No.
Fast Enzyme Solution (ready-to-use)	-	15 ml	ZUC059-015

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

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