

## PRODUCT INFORMATION

### Collagenase NB 8 Broad Range

**Cat. No. 17456**

#### Product Description:

**General** Collagenase NB 8 is designed for dissociation of different tissues to isolate various cell types.  
The Collagenase NB 8 producing strain of *Clostridium histolyticum* has been carefully selected for producing a collagenase product that is non-toxic according to the requirements of the European Pharmacopoeia. Collagenase NB 8 is purified by chromatographic steps and contains class I and II collagenases and low levels of secondary proteases and endotoxin.

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<b>Specification</b>	Collagenase activity	≥ 0.9 U/mg (PZ acc. to Wunsch)
	Neutral protease activity	≤ 0.2 U/mg (DMC)
	Trypsin-like activities	≤ 0.5 U/mg (BAEE)
	Endotoxin	≤ 100 EU/mg

For some tissue dissociation applications, it is necessary to add Neutral Protease NB (Cat. No. 30301, see below).

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**Application** Collagenase NB 8 is used for dissociation of tissues for isolation of different cell types like pancreatic islets, cardiomyocytes, hepatocytes, chondrocytes and others, which are used for research purposes.  
The enzymes are not intended for use in humans.

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**Storage conditions** Collagenase NB 8 is provided separately as lyophilized powder and should be stored **in a dry state** at +2 to +8 °C.  
**It is not recommended to store the enzyme in solution.**

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### **Instructions for use:**

**General** Different experimental procedures have to be applied for isolation of different cell types.

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<b>Required enzymatic activity</b>	Cardiomyocytes (human)	0.8 – 1.0 PZ-U/ml
	Cardiomyocytes (rat)	0.5 PZ-U/ml
	Chondrocytes (bovine meniscus)	1.2 PZ-U/ml
		+ 1 DMC-U/ml Neutral Protease NB
	Hepatocytes (human)	0.75 PZ-U/ml
	Hepatocytes (pig, dog)	135 PZ-U
	Pancreatic islets (pig)	4.4 PZ-U/gram pancreas <sup>1</sup>
	+ 0.6-0.8 DMC-U/gram pancreas	
Thyroid gland (human)	0.8 – 1.0 PZ-U/ml	

Collagenase NB 8 has reduced contents of secondary proteolytic activities like neutral protease or trypsin-like activities. Therefore, in some applications (see above) the addition of Neutral Protease NB is necessary to achieve optimal isolation results. The content of neutral protease activity in Collagenase NB 8 has to be considered for calculation of the addition of Neutral Protease NB.

For isolation of pancreatic islets from pig, required enzymatic activity is calculated based on the weight of the cleaned porcine organ (fat and membranes dissected from the surface); the recommended perfusion buffer is UW solution. The addition of a trypsin inhibitor (e.g. Pefabloc<sup>®</sup>) is recommended to avoid damage of the islets.

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**Working solution** Collagenase NB 8 easily dissolves in usually applied buffers up to a concentration of 30 mg/ml.  
If addition of Neutral Protease NB is required, this enzyme should be dissolved separately in water and added to the collagenase solution directly before use only.  
Preparation and storage of the solutions before use at 4 °C.  
If sterile filtration is desired a sterile filter with low protein binding properties (e.g. PES, PVDF) should be used with the filter being rinsed with an additional small volume of buffer solution after filtration.

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<sup>1</sup> Brandhorst, D. et al. (2005) Transplantation, 79(1), 38-43