Dissociation Reagents

Elastase

For digestion of native elastin

Catalog #	07453	25 mg
	07454	100 mg
	100-0682	1 g

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Product Description

Elastase is a serine protease consisting of a single polypeptide chain of 240 amino acid residues and contains four disulfide bridges (Shotton & Hartley). Elastase is synthesized as a zymogen (proelastase) and is converted to the active form by limited trypsin proteolysis at its N-terminal. Elastase preferentially cleaves the peptide bond of C-terminal neutral, non-aromatic amino acid residues (Schellenberger et al.). Elastase is frequently used in combination with other proteases such as collagenase and trypsin to digest native elastin.

Product Information

Alternative Names:	Elastoproteinase; Lysosomal elastase; Pancreatic elastase I; Pancreatopeptidase E
Format:	Lyophilized powder
Storage:	Store at 2 - 8°C.
Stability:	Stable as supplied for 12 months from date of receipt.
Reconstitution:	Dissociation reagents can be reconstituted in a balanced salt solution or buffer of choice.
Molecular Weight:	26.0 kDa
CAS Number:	39445-21-1
Optimum pH:	8.5
Cleavage Site:	-X- † -Y- : X = uncharged, non-aromatic Y = nonspecific

Please refer to the Safety Data Sheet (SDS) for hazard information.

Specifications

Source:	Porcine pancreas
Activity:	≥ 3 units/mg protein. See Notes for further information.

Related Products

For a complete list of dissociation reagents, as well as related products available from STEMCELL Technologies, visit www.stemcell.com or contact us at techsupport@stemcell.com.

Notes

ACTIVITY UNITS
1 unit cleaves 1 µmol of N-succinyl-L-alanyl-L-alanyl-L-alanine-p-nitroanilide/minute at 25°C at pH 8.0.

References

Barkauskas CE et al. (2013) Type 2 alveolar cells are stem cells in adult lung. J Clin Invest 123(7): 3025–36.
Grinnell F & Zhu M. (1994) Identification of neutrophil elastase as the proteinase in burn wound fluid responsible for degradation of fibronectin. J Invest Dermatol 103(2): 155–61.
Klein D et al. (2011) Vascular wall-resident CD44+ multipotent stem cells give rise to pericytes and smooth muscle cells and contribute to new vessel maturation. PLoS One 6(5).
Miri AK et al. (2015) Study of extracellular matrix in vocal fold biomechanics using a two-phase model. Biomech Model Mechanobiol 14(1): 49–57.
Rock JR et al. (2011) Multiple stromal populations contribute to pulmonary fibrosis without evidence for epithelial to mesenchymal transition. Proc Natl Acad Sci USA 108(52): E1475–83.
Schellenberger V et al. (1989) Characterization of the S'-subsite specificity of porcine pancreatic elastase. Eur J Biochem 179(1): 161–3.
Shotton DM & Hartley BS. (1973) Evidence for the amino acid sequence of porcine pancreatic elastase. Biochem J 131(4): 643–75.
Takahashi A et al. (2014) Proteoglycans maintain lung stability in an elastase-treated mouse model of emphysema. Am J Respir Cell Mol Biol 51(1): 26–33.