

Dissociation Reagents

Collagenase Type III

For digestion of native collagen fibrils



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Catalog # 07422
07423

100 mg
1 g

Product Description

Collagenase is a protease consisting of a single polypeptide chain approximately 1,000 amino acid residues in length. Collagenase is capable of digesting native collagen fibrils commonly found in connective tissues and therefore is frequently used for tissue dissociation. Collagenase preparations contain the activity of several proteases, including collagenase, caseinase, clostripain, and trypsin (Kessler & Yaron). Collagenase Type III contains low levels of proteolytic activity, especially for caseinase, clostripain, and trypsin. Collagenase Type III has been used for the dissociation of mammary glands (Rønnev-Jessen et al.), colon cancer stem cells (Prince et al.), and breast epithelial tumor cells (Chan et al.).

Product Information

Alternative Names:	Clostridium histolyticum collagenase; Collagenase 3; Collagenase Type 3; Collagenase III
Format:	Lyophilized powder
Storage:	Store at 2 - 8°C.
Stability:	Stable until expiry date (EXP) on label.
Reconstitution:	Dissociation reagents can be reconstituted in a balanced salt solution or buffer of choice.
Molecular Weight:	68 - 130 kDa
CAS Number:	9001-12-1
Optimum pH:	6.3 - 8.5
Cleavage Site:	-Pro-X-†-Gly-Pro-Y- : X = neutral Y = nonspecific

Specifications

Source:	Clostridium histolyticum
Activity:	Collagenase: ≥ 100 CDU/mg dry weight (mgdw); Caseinase: ≥ 50 u/mgdw; Clostripain: ≤ 3.0 u/mgdw; Trypsin: ≤ 0.3 u/mgdw. See Notes for further information.

Related Products

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

Notes

ACTIVITY UNITS

Collagenase: 1 collagenase digestion unit (CDU) equals 1 μ mol of L-leucine equivalents released from collagen in 5 hours at 37°C, pH 7.5.

Caseinase: 1 unit equals 1 μ mol of L-leucine equivalents released from 25 mg vitamin-free casein in 5 hours at 37°C, pH 7.5. Measures non-specific proteolytic activity.

Clostripain: 1 unit hydrolyzes 1 μ mol of N α -benzoyl-L-arginine ethyl ester (BAEE)/minute at 25°C at pH 7.6, after activation in 2.5 mM dithiothreitol (DTT).

Trypsin: 1 unit hydrolyzes 1 μ mol of BAEE/minute at 25°C at pH 7.6.

References

- Braren R et al. (2006) Endothelial FAK is essential for vascular network stability, cell survival, and lamellipodial formation. *J Cell Biol* 172(1): 151–62.
- Chan RWS. (2004) Clonogenicity of Human Endometrial Epithelial and Stromal Cells. *Biol Reprod* 70(6): 1738–50.
- Eagleson KL & Bennett MR. (1983) Survival of purified motor neurones in vitro: Effects of skeletal muscle-conditioned medium. *Neurosci Lett* 38(2): 187–92.
- Guenther CJ et al. (2014) Circadian rhythms of PER2::LUC in individual primary mouse hepatocytes and cultures. *PLoS One* 9(2).
- Hardy CL et al. (2012) Inert 50-nm polystyrene nanoparticles that modify pulmonary dendritic cell function and inhibit allergic airway inflammation. *J Immunol* 188(3): 1431–41.
- Kessler E & Yaron A. (1973) A novel aminopeptidase from clostridium histolyticum. *Biochem Biophys Res Commun* 50(2): 405–12.
- Liu R et al. (2007) The prognostic role of a gene signature from tumorigenic breast-cancer cells. *N Engl J Med* 356(3): 217–26.
- Mueller SO et al. (2002) Mammary gland development in adult mice requires epithelial and stromal estrogen receptor alpha. *Endocrinology* 143(6): 2357–65.
- Prince ME et al. (2007) Identification of a subpopulation of cells with cancer stem cell properties in head and neck squamous cell carcinoma. *Proc Natl Acad Sci U S A* 104(3): 973–8.
- Rønnov-Jessen L et al. (2002) Differential expression of a chloride intracellular channel gene, CLIC4, in transforming growth factor-beta1-mediated conversion of fibroblasts to myofibroblasts. *Am J Pathol* 161(2): 471–80.
- Stallmach A et al. (1998) Increased state of activation of CD4 positive T cells and elevated interferon gamma production in pouchitis. *Gut* 43(4): 499–505.

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