Collagenase Type I

**Product Description**
Collagenase is a protease consisting of a single polypeptide chain approximately 1000 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 Type I contains the activity of several proteases, including collagenase, caseinase, clostripain, and trypsin. Collagenase Type I has been used for the digestion of human tissues such as intestine (Barthel et al.), mammary glands (Huss & Kratz), and prostate (Le et al.), as well as specific cell types such as endothelial cells (Ganguly et al.) and dorsal root ganglion cells (Dib-Hajj et al.).

**Product Information**

**Alternative Names:** Clostridiopeptidase A; Clostridium histolyticum collagenase; Collagenase 1; Collagenase Type 1; Collagenase I

**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:** 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

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

**Specifications**

**Source:** Clostridium histolyticum

**Activity:**
- Collagenase: ≥ 125 CDU/mg dry weight (mgdw); Caseinase: ≥ 200 u/mgdw; Clostripain: ≤ 4.0 u/mgdw; Trypsin: ≤ 0.5 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, visit www.stemcell.com or contact us at techsupport@stemcell.com.

**Notes**

**ACTIVITY UNITS**
- Collagenase: 1 collagenase digestion unit (CDU) equals 1 µmol of L-leucine equivalents released from collagen in 5 hours at 37°C, pH 7.5.
- Caseinase: 1 unit equals 1 µmol 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 µmol of Na- 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 µmol of BAEE/minute at 25°C at pH 7.6.
Dissociation Reagents

Collagenase Type I

References

Mohapatra A et al. (2016) Group 2 innate lymphoid cells utilize the IRF4-IL-9 module to coordinate epithelial cell maintenance of lung homeostasis. Mucosal Immunol 9(1): 275–86.