Store at 4°C

Collagenase, Type 1

#62648

1 g

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For Research Use Only. Not For Use In Diagnostic Procedures.

Description: Collagenase, Type 1 is isolated from *Clostridium histolyticum* and has the original balance of collagenase, caseinase, clostripain, and tryptic activities. Crude collagenase preparations contain a mixture of several different enzymes, including collagenases and proteases, that effectively break down intercellular matrices. The ratio of collagenolytic and proteolytic activities is an important part of tissue dissociation. Crude collagenase is inhibited by metal chelating agents, such as cysteine, EDTA, or o-phenanthroline, but not DFP. Calcium ions provide structural stability for enzyme activity (1). Collagenases are used at various concentrations for tissue dissociation, generally ranging from 0.1 to 5 mg/ml, and various time points depending on the desired affect (2-4). Several types of collagenases (Types 1, 2, 3, and 4) have been established based on the enzymatic profile.

Specificity/Sensitivity: Collagenase, Type 1 is suggested for epithelial, liver, lung, and adrenal primary cell isolations.

Source/Purification: Collagenase, Type 1 is produced by the bacterium *Clostridium histolyticum* and dialyzed prior to lyophilization.

Activity: ≥ 125 units per mg dry weight

Unit Definition: One unit releases 1 µmol of L-leucine equivalents from collagen in 5 hours at 37°C, pH 7.5.

Storage: Collagenase, Type 1 is supplied as a lyophilized powder. This product is stable for 12 months when stored at 4°C, protected from moisture. It is recommended to reconstitute as needed and to store solutions at a 1 mg/ml concentration at -20°C or -80°C. *Aliquot to avoid multiple freeze/thaw cycles.*

Directions for Use: Collagenase, Type 1 is soluble from 1-20 mg/ml with an optimal pH range of 6.3-7.5. It is recommended to reconstitute with a buffer compatible with the intended assay. Vials should be brought to room temperature prior to opening and they should not be opened in humid areas.

Background References:

(1) Ohbayashi, N. et al. (2012) *Appl Environ Microbiol* 78, 5839-44.

(2) Balamurugan, A.N. et al. (2010) *Transplantation* 89, 954-61.

(3) O'Flanagan, C.H. et al. (2019) *Genome Biol* 20, 210.

(4) Brandhorst, H. et al. (2003) *Diabetes* 52, 1143-6.

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Applications: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide **Species Cross-Reactivity:** **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—Horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.