

PRODUCT INFORMATION

Collagenase NB 4 Standard Grade

Cat. No. 17454

Product Description:

General Collagenase NB 4 is designed for dissociation of different tissues to isolate various cell types.
The Collagenase NB 4 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. A balanced ratio of collagenase and other proteases guarantees for high yields of viable cells.
Collagenase NB 4 has the same enzymatic composition as Collagenase NB 5 Sterile Grade (sterile according to Pharm. Eur.) and Collagenase NB 6 GMP Grade. Collagenase NB 6 GMP Grade is especially designed for the isolation of cells for transplantation into humans.

Specification Collagenase activity ≥ 0.1 U/mg (PZ acc. to Wunsch)

Application Collagenase NB 4 Standard Grade is designed for dissociation of different tissues to isolate various cell types, e.g. chondrocytes, muscle cells, epithelial cells, skin fibroblasts, hepatocytes, adipocytes which are used for research purposes. It also can be used as low cost alternative to Collagenase NB 6 for procedure establishing purposes.
The enzyme is not intended for use in humans.

Storage conditions Collagenase NB 4 Standard Grade is provided as a lyophilized powder and should be stored **in a dry state** at +2 to +8 °C.

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Instructions for use:

General Collagenase NB 4 is designed for dissociation of different tissues to isolate various cell types, e.g. chondrocytes, muscle cells, epithelial cells, skin fibroblasts, hepatocytes, adipocytes. For isolation of each cell type a specific isolation procedure has to be applied to receive optimal yields of viable cells. For some cell types detailed protocol information is available.

Required enzymatic activity

For establishing of the procedure the following concentrations of Collagenase NB 4 can be used as starting point:

Human:

Adipocytes (adult)	0.1 - 0.3 PZ-U/ml
Chondrocytes	0.36 PZ-U/ml
Fibroblasts (foreskin)	0.45 PZ-U/ml
Endothelial cells (vessel, umbilical cord)	0.12 PZ-U/ml
Mesenchymal stromal cells (umbilical cord)	0.24 PZ-U/ml
Smooth muscle cells	0.08 PZ-U/ml

Others:

Epithelial cells (sheep skin)	0.24 PZ-U/ml
Epithelial cells (murine mammary gland)	0.34 PZ-U/ml
Ganglion (rat dorsal root)	0.19 PZ-U/ml
Neurons (rat hippocampus)	0.28 PZ-U/ml
Chondrocytes (bovine cartilage)	0.3 PZ-U/ml
Oocytes (Xenopus ovary)	0.3 – 0.5 PZ-U/ml

If digestion is incomplete or if cells are damaged, collagenase concentration, time or temperature should be increased or decreased, respectively.

Stock solution

Collagenase NB 4 easily dissolves in a concentration of up to 150 mg/ml in all buffers which are generally used for cell isolation. Keep the enzyme solution on ice. As collagenase and some of the secondary proteases depend on calcium, 2 mM Ca²⁺ should be added, and no calcium chelating agents (e.g. EDTA) should be used.

Working solution

Stock solution is diluted with dissociation buffer to achieve the required enzymatic activity (see above). Dissociation can be terminated by diluting the enzyme solution with buffer and cooling the system.