

## PRODUCT INFORMATION

### Collagenase NB 7D Gentle Grade

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**Introduction** Collagenases from *Clostridium histolyticum* are proteolytic enzymes that cleave peptide bonds in the triple helical collagen molecule of human or animal tissue *in situ*. They are also referred as crude collagenases, because they consist of collagenase class I and class II, neutral proteases and clostripain in different ratios. The ratio of enzymatic activities can be altered enabling cell isolation from various tissue types.

**Description** Collagenase NB 7D Gentle Grade is a partly purified collagenase that has slightly higher collagenase activity while containing lower tryptic activities. The product is intended for research use only.

**Specification**

Collagenase activity	≥ 0.2 U/mg (PZ acc. to Wunsch)
Trypsin-like activities	≤ 0.2 U/mg (BAEE)
Ratio Collagenase : Trypsin	≥ 3.0

**Application** Collagenase NB 7D Gentle Grade is suitable for dissociation of a broad variety of tissue types especially in cases where sensitive conditions are beneficial.

If a GMP conforming product is required, please contact Nordmark Biochemicals under [collagenase@nordmark-biochemicals.com](mailto:collagenase@nordmark-biochemicals.com)

**Storage conditions** Collagenase NB 7D Gentle Grade is provided as a lyophilized powder. It should be stored at +2 to +8 °C in a dry environment. Under these conditions the product is stable until the minimum shelf life stated on the certificate of analysis if repeated opening and closing of the vial is avoided.

**Documents** For each lot a specific certificate of analysis is provided. A certificate of origin is available.

**Product size**

Product	Cat. No.	Size (g)
Collagenase NB 7D Gentle Grade	S1747401	0.5 g
	S1747402	1 g
	S1747403	5 g



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### Instructions for use:

**General** Collagenase NB 7D Gentle Grade is especially designed for isolation of sensitive cells (e.g. dendritic cells, diverse tumor cells) from human or animal tissues. The product exhibits slightly higher collagenase activity and low tryptic activities preserving cell-membrane receptors and other cell-surface proteins.

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**Tissue dissociation** Recommended starting concentrations for selected applications:

Skin (mouse):	0.18 - 0.22 PZ U/ml
Tumor cells (mouse):	0.50 - 0.60 PZ U/ml

In general, the appropriate collagenase concentration depends on tissue type and origin as well as on the isolation procedure. Further protocol information for dissociation of several tissue types is available at [www.nordmark-biochemicals.com](http://www.nordmark-biochemicals.com)

Collagenase activity is at an optimum at 37 °C and pH 7.4.

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**Stock solution** Collagenase NB 7D Gentle Grade can be dissolved in most buffers, which are used for cell isolation. The enzyme solution must be constantly stored on ice.

Since collagenase and some of the secondary proteases depend on calcium, it is recommended to use a buffer with  $\geq 2$  mM  $\text{Ca}^{2+}$ . Absolutely no calcium chelating agents (e.g. EDTA) should be present at all.

For 0.22  $\mu\text{m}$  filtration filters with low protein-binding properties (e.g. cellulose acetate, PVDF, or PES) are recommended.

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**Working solution** To prepare a working solution, the stock solution is diluted with buffer to achieve the required collagenase concentration. The working solution must be constantly stored on ice until use.

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**Inactivation and inhibitors** The dissociation process can be reduced, e.g. by cooling down or dilution of the enzyme solution.

Collagenase is reversibly inactivated at high pH values and irreversibly inactivated at low pH values. Inhibitors of collagenase include cysteine or chelating agents like EDTA.

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**Important note** Collagenase NB 7D Gentle Grade is intended for research use only.

