

## PRODUCT INFORMATION

### Collagenase NB 4G Proved Grade

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**General** Collagenases from *Clostridium histolyticum* are proteolytic enzymes that cleave peptide bonds in the triple helical collagen molecule of human or animal tissue *in situ*.

For this reason collagenases are widely used for isolation of various cell types by tissue dissociation.

**Description** Collagenase NB 4G Proved Grade is a crude collagenase which contains collagenolytic and additional enzymatic activities including clostripain and neutral protease. The balanced ratio of these activities leads to gentle and efficient tissue dissociation.

**Specification** Collagenase activity  $\geq 0.18$  U/mg (PZ acc. to Wunsch)

**Application** Collagenase NB 4G Proved Grade is suitable for dissociation of a broad variety of tissue types.

**Storage conditions** Collagenase NB 4G Proved 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 4G Proved Grade	S1746501	0.5
	S1746502	1
	S1746503	5

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#### Instructions for use:

##### General

Collagenase NB 4G Proved Grade is suitable for isolation of a broad variety of cells from human or animal tissues. Tissue types include skin, liver, colon tumors, and xenopus ovaries.

##### Tissue dissociation

Recommended starting concentrations for selected applications:

Skin (human, rodent): 0.2 – 0.5 PZ U/ml

Liver (rodent): 0.1 – 0.15 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.

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

##### Stock solution

Collagenase NB 4G Proved Grade dissolves at a concentration of up to 150 mg/ml in all buffers which are commonly 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.

##### 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 stored on ice until use.

##### 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.

##### Important note

Collagenase NB 4G Proved Grade is not intended for direct application in humans.

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