

PRODUCT INFORMATION

Clostripain NB

Cat. No. S2020501

General	<p>Clostripain from <i>Clostridium histolyticum</i> is a proteinase that cleaves peptide bonds on the carboxyl side of arginine. It is also known as Endoproteinase Arg-C. As a proteolytic enzyme it can be used for isolation of various cell types by tissue dissociation.</p> <p>Clostripain exists in two different forms, an oxidized (native condition) and a reduced (activated) form that differ in enzymatic activity.</p>								
Description	<p>Clostripain NB is chromatographically highly purified and largely free from additional enzymatic activities.</p>								
Specification	<table><tr><td>Clostripain, native state activity</td><td>≥ 5.0 U/mg (BAEE)</td></tr><tr><td>Clostripain, activated activity</td><td>≥ 50.0 U/mg (BAEE)</td></tr><tr><td>Clostripain activity, native state, per vial</td><td>≥ 200 U/vial (BAEE)</td></tr><tr><td>Clostripain activity, activated, per vial</td><td>status</td></tr></table>	Clostripain, native state activity	≥ 5.0 U/mg (BAEE)	Clostripain, activated activity	≥ 50.0 U/mg (BAEE)	Clostripain activity, native state, per vial	≥ 200 U/vial (BAEE)	Clostripain activity, activated, per vial	status
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Application	<p>Clostripain NB is used in combination with Collagenase NB 1 Premium Grade (Cat. No. S1745503) and/or Neutral Protease NB (Cat. No. S3030112), suitable for cell isolation from various tissue types.</p>								
Storage conditions	<p>Clostripain NB is provided as a lyophilized powder. It should be stored at -20 °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.</p> <p>For storage of solutions please refer to “Stock solution”.</p>								
Documents	<p>For each lot a specific certificate of analysis is provided. A certificate of origin is available.</p>								

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Instructions for use:

General

Clostripain NB is, in combination with Collagenase NB 1 Premium Grade and Neutral Protease NB, especially suited for isolation of islets of Langerhans from human pancreas, and also for cell isolation from several other human or animal tissues. The native clostripain can be activated with reducing agents (e.g. DTT, Cysteine) resulting in a higher activity of the enzyme.

Tissue dissociation

Recommended starting concentrations for isolation of islets of Langerhans from human pancreas:

Collagenase NB 1 Premium Grade: 15 – 20 PZ U/g tissue

Neutral Protease NB: 0.8 – 1.5 DMC U/g tissue

Clostripain NB, native state: 0.8 – 1.8 U/g tissue

Collagenase may contain traces of clostripain which have to be considered to calculate the final clostripain concentration.

Clostripain NB is provided in vials with not less than 200 U which is usually sufficient for dissociation of one human pancreas.

In general, the appropriate clostripain concentration depends on tissue type and origin as well as on the isolation procedure.

Stock solution

A stock solution of Clostripain NB is prepared by dissolving the enzyme in buffer. The enzyme solution must be constantly stored on ice.

Since Clostripain depends on calcium, absolutely no calcium chelating agents (e.g. EDTA) should be present at all.

Reconstituted Clostripain NB can be 0.22 µm filtered, aliquoted and stored at -20 °C. Aliquots are stable for 1 year if repeated freezing and thawing is avoided.

For 0.22 µm 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 clostripain concentration. The working solution must be constantly stored on ice until use.

If Clostripain NB solution is mixed with Collagenase NB and Neutral Protease NB solution, the blend should be used immediately.

Inactivation and inhibitors

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

Inhibitors of Clostripain include chelating agents like EDTA and all oxidizing agents.

Important note

Clostripain NB is intended for research use only.