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ab270049 BaseMuncher Endonuclease

A product of Expedeon, an Abcam company

Applicable to Expedeon product codes BM0100, BM0025.

View ab270049
BaseMuncher Endonuclease datasheet:
www.abcam.com/ab270049
(use www.abcam.cn/ab270049 for China, or www.abcam.co.jp/ab270049 for Japan)

For the removal of nucleic acids from protein samples.

This product is for research use only and is not intended for diagnostic use.

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1. Overview

BaseMuncher Endonuclease (ab270049) is a non-specific endonuclease that hydrolyzes both single- and double-stranded nucleic acids (DNA and RNA) to 5'-phosphorylated oligonucleotides of 1-4 bases in length.

Recombinantly produced in *E. coli* using the Benzonase gene in a proprietary process, BaseMuncher is a highly purified homodimer of 27 kDa subunits that has exceptionally high specific activity and is completely free of protease activity. BaseMuncher is ideal for reducing viscosity during protein purification and sample preparation/analysis, replacing crude DNase I in many applications.

1. Materials Supplied and Storage

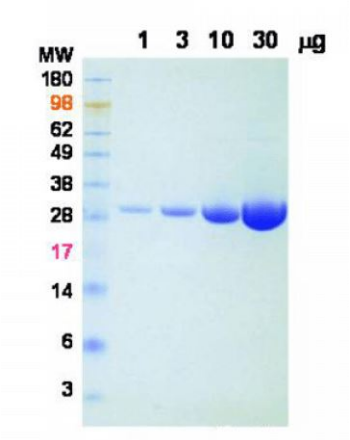
Store at -20°C immediately on receipt.

Item	Quantity		Storage temperature
BaseMuncher Endonuclease	25,000 Units	100,000 units	-20°C

2. Technical Considerations

2.1 Formulation:

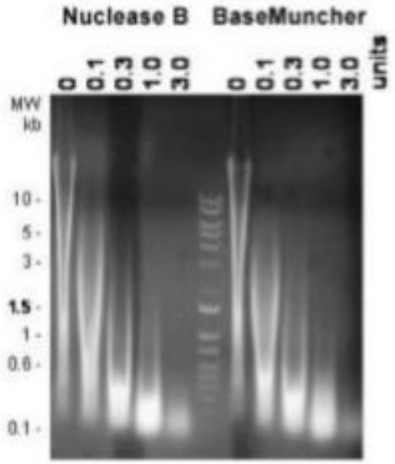
250 units/µL in 50 mM Tris-HCl, pH 8.0, 50 mM NaCl, 5 mM $MgCl_2$ and 50% Glycerol.



Gel: BaseMuncher is purified using a proprietary process to be >99% pure and contains < 0.25 EU/1,000 units of BaseMuncher as determined by the LAL Gel-Clot Assay.

2.2 Activity and Specificity:

One unit of BaseMuncher converts 1.0 OD 260 of salmon sperm DNA into acid-soluble nucleotides in 30 minutes at +37°C in a reaction buffer of 50 mM Tris-HCl, pH 8.0 and 1 mM $MgCl_2$. This corresponds to complete digestion of 50 µg of salmon sperm DNA into oligonucleotides.



Gel: 50 mg of salmon sperm DNA was incubated with the indicated units of BaseMuncher and another brand of nuclease at +37°C for 30 minutes in a buffer of 50 mM Tris-HCl; pH 8.0 and 1 mM $MgCl_2$. DNA digestion was monitored by agarose gel

To reduce viscosity of cell lysate, 10-500 units of BaseMuncher can be used for each gram of cell paste. Generally, adding BaseMuncher to cell lysate at 25 units/mL is sufficient to reduce lysate viscosity.

The efficiency of viscosity reduction may vary with buffers, cell types, and cell lysis methods used. Due to its high specific activity, the total amount BaseMuncher added is less than 0.1 mg/mL of lysate and will not complicate any downstream process.

3. Cell Lysis Protocol

3.1 Cell pellets should be frozen briefly to increase the efficacy of cell lysis.

3.2 Make fresh cold Lysis Buffer. The Lysis Buffer should be a buffer in which the target protein is soluble. The Lysis Buffer should be compatible with downstream purification processes, e.g. 25 mM Tris-HCl; pH 8.0, 500 mM NaCl, 14 mM β-mercaptoethanol. 1% Triton X-100 has no effect on BaseMuncher activity.

*Δ **Note:** BaseMuncher Endonuclease has the same activity in 150 mM NaCl or 500 mM NaCl and 400 mM imidazole.*

3.3 Re-suspend thawed cell paste in Lysis Buffer. Use 2-10 mL Lysis Buffer for each gram of cell paste. BaseMuncher Endonuclease can reduce the amount of Lysis Buffer used, i.e. 2 mL of lysis buffer for each gram of cell pellet is routinely used.

3.4 Add BaseMuncher Endonuclease to 25 unit/mL Protease inhibitors can be added at the same time. If the lysis buffer contains EDTA or EGTA, add 10-fold more BaseMuncher.

3.5 Lyze cells by mechanical or chemical methods on ice or at room temperature. BaseMuncher Endonuclease also reduces the viscosity of lysate lyzed by microfluidizer.

3.6 Clarify lysate by centrifugation prior column loading. The reduced viscosity makes it possible to centrifuge the lysate at lower speed. 35,000 x *g* for 1 hour is sufficient. Lysate can be loaded to "Crude" columns without clarification.

4. Notes

Technical Support

For all technical or commercial enquiries please go to:

www.abcam.com/contactus

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www.abcam.co.jp/contactus (Japan)