



Turbo Nuclease

also known as Benzonase®
Serratia marcescens, recombinant, *E. coli*

Cat. No.	Amount
EN-180S	10000 units
EN-180L	5 x 10000 units

Unit Definition: One unit will digest sonicated salmon sperm DNA to acid-soluble oligonucleotides equivalent to a $\Delta 260$ of 1.0 in 30 min at pH 8.0 at 37 °C.

For *in vitro* use only!

Shipping: shipped on blue ice

Storage Conditions: store at -20 °C

Additional Storage Conditions: avoid freeze/thaw cycles

Shelf Life: 12 months

Form: liquid (Supplied in 20 mM Tris-HCl pH 8.0, 20 mM NaCl, 2 mM MgCl₂, 1 mM DTT and 50 % [v/v] glycerol)

Concentration: 250 units/ μ l

Applications:

Turbo Nuclease is very effective in degrading nucleic acid from protein samples and it is used in a variety of application where complete hydrolysis of DNA/RNA is required:

- Reduction of viscosity from cell lysates
- Prevention of cell clumping
- Elimination of unspecific protein-DNA complexes prior 2D- or native gel electrophoresis
- Removal of nucleic acids from large-scale protein preparations

Description:

Turbo Nuclease is a broad-spectrum endonuclease that cleaves both DNA and RNA molecules independently of being single- or double-stranded, circular, linear or supercoiled. The enzyme is highly stable and active in a broad range of pH and temperature, making it ideal for a variety of downstream processes that require the degradation of DNA/RNA in a simple, efficient and specific manner.

- Endonuclease from *Serratia marcescens* recombinant expressed and purified from *E.coli*
- Catalytic activity from pH 6 to 10 (optimal around 8.8) and temperature 0 to 44 °C
- High catalytic efficiency (34-fold greater than DNase I)
- Activity requires the presence of Mg²⁺ (optimum 2 mM)

Procedure:

- Make a fresh, cold lysis buffer in which the target protein is soluble and is compatible with downstream purification processes, e.g. minimal amount of EDTA or DTT if a Ni-NTA column will be used.
- Resuspend the thawed cell paste in lysis buffer. Use 2-10 ml Lysis Buffer for each gram of cell paste.
- Add Turbo Nuclease to 2.5 units/ml.
- A fluid 'aqueous' solution will result after 15 min.

Selected References:

Benedik *et al.* (1998) *Serratia marcescens* and its extracellular nuclease. *FEMS Microbiol. Lett.* **165 (1)**:1.