DATA SHEET

Jena Bioscience

# Turbo Nuclease

also known as Benzonase®

*Serratia marcescens*, recombinant, *E. coli*

| Cat. No. | Amount |
|---|---|
| EN-180S | 10.000 units |
| EN-180L | 5 x 10000 units |

**Unit Definition:** One unit will digest sonicated salmon sperm DNA to acid-soluble oligonucleotides equivalent to a Δ260 of 1.0 in 30 min at pH 8.0 at 37 °C.

**For general laboratory use.**

**Shipping:** shipped on gel packs

**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 $MgCl_2$, 1 mM DTT and 50 % [v/v] glycerol)

**Concentration:** 250 units/µl

**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 macescens* 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 $Mg^{2+}$ (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.