

# Benzonase, E. Coli Recombinant

<b>CATALOG #:</b>	7680-5	5 KU (20 µl)
	7680-25	25 KU (100 µl)
<b>ALTERNATE NAMES:</b>	Endoribonuclease	
<b>SOURCE:</b>	E.Coli	
<b>PURITY:</b>	≥98% by SDS - PAGE	
<b>MOL. WEIGHT:</b>	~ 30 kDa.	
<b>FORM:</b>	Liquid	
<b>FORMULATION:</b>	250 U/µl in 50% glycerol.	
<b>STORAGE CONDITIONS:</b>	Store at -20°C in aliquots.	

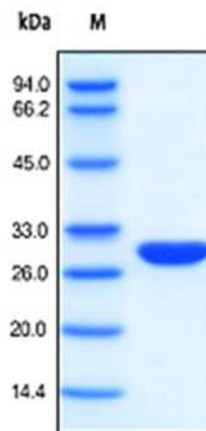
**DESCRIPTION:** Golden Nuclease is a recombinant form of *Serratia macescens* extracellular endonuclease produced in Escherichia coli. Golden Nuclease is a homodimer with monomer molecular masses about 30 kDa. Two disulfide bonds found in the nuclease are crucial to its activity and stability. The enzyme is a non-specific nuclease with high specific activity, which degrades both single- and double-stranded nucleic acids in any form (single stranded, double stranded, linear, circular and supercoiled). It hydrolyzes internal phosphodiester bonds present between the nucleotides to 5'-phosphorylated oligonucleotides of 3-8 bases in length.

**WORKING CONDITIONS:**

- Optimal pH 8-8.5, functional pH 6-10.
- Optimal temperature 35°C - 42°C, functional 0°C to 42°C.
- Magnesium (1-2 mM) is required for activity. In the presence of 1 mM MgCl<sub>2</sub>, activity is reduced 30% by 1mM EDTA or completely inactivated by 0.1M EDTA. Activity is reduced 75% by 0.1 M CaCl<sub>2</sub> or 1M NaCl.
- Under standard assay conditions, 1 mM iodoacetate had no effect on enzymatic activity. 1 mM mercaptoethanol and maleic acid reduced activity 5 to 10%. 10 mM p-Chloromercuribenzoate completely inactivates the enzyme. 0.64 M beta-mercaptoethanol in the presence of 2 M urea slightly decreases enzymatic activity. 4 to 7 M Urea increases enzymatic activity.

**UNIT DEFINITION:** One unit is defined as the change of A<sub>260</sub> = 1 (equivalent to 37 µg of DNA) when sonicated salmon sperm DNA is digested with the enzyme for 30 min at 37°C at pH 8.0.

**APPLICATION:** Removal of DNA/RNA from proteins; Purification of recombinant protein from inclusion bodies; Viscosity reduction of protein samples, etc.



SDS-PAGE analysis of Golden Nuclease

**RELATED PRODUCTS:**

- PFU DNA polymerase (Cat. No. 9003-500, -2500)
- T4 DNA Ligase (5 u/µl) (Cat. No. 9101-250)
- Taq DNA polymerase (Cat. No. 9001-500, -2500)
- TurboNuclease, Recombinant (Cat. No. 9207-50KU)
- Turbo3C (HRV3C) Protease, Recombinant (Cat. No. 9206-1)
- TurboTEV Protease, Recombinant (Cat. No. 9205-1)
- Proteinase K, Recombinant (Cat. No. 9210-100, -500, -1G, -10G)
- Proteinase K, 20 mg/ml Solution (Cat. No. 9211-5, -25)

**FOR RESEARCH USE ONLY! Not to be used in humans.**