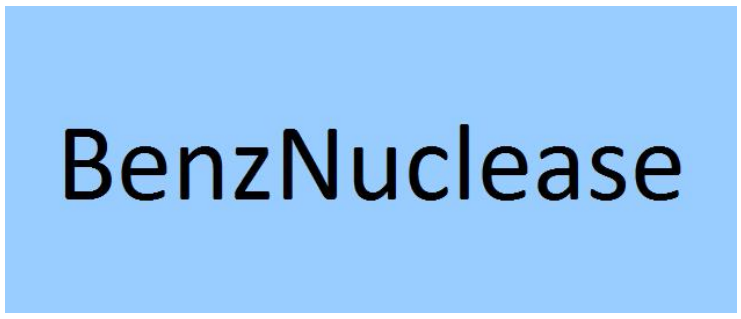
Synonym

GENIUS™Nuclease,BenzNuclease,BenzoNuclease,benzonase,Nuclease

Source

GENIUS™Nuclease is a recombinant form of Serratia macescens extracellular endonuclease produced in Escherichia coli cells using a proprietary process at ACRObiosystems. GENIUS™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.
Predicted N-terminus: N/A

Molecular Characterization



BenzNuclease is a recombinant form of Serratia macescens extracellular endonuclease produced in Escherichia coli cells using a proprietary process at ACRObiosystems. BenzNuclease 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.

Application

Its high intrinsic activity and broad substrate tolerance make the endonuclease an ideal tool in a variety of biotechnological and pharmaceutical applications: removal of nucleic acid from protein samples (Elimination of nucleic acids from recombinant proteins; Purification of protein fragments from inclusion bodies; Sample preparation in western blotting or two-dimensional gel electrophoresis) ; Viscosity reduction in protein extracts.

Endotoxin

Less than 1.0 EU per μg by the LAL method.

Sterility

The sterility testing was performed by membrane filtration method.

Purity

>95% as determined by SDS-PAGE.

Formulation

Lyophilized from 0.22 μm filtered solution in Tris HCl, pH 8.0, MgCl2, and NaCl with undefined as protectant.

Contact us for customized product form or formulation.

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Storage

For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

SDS-PAGE

The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

Bioactivity

Fig.The activity of any unknown nuclease can be determined from a single measurement by means of the standard curve. The specific activity of BenzNuclease is >1.5 x 10e6 unit/mg protein (QC tested).

Clinical and Translational Updates

Please contact us via TechSupport@acrobiosystems.com if you have any question on this product.