

MaxNuclease(GMP grade) - DMF Filed**Specifications**

Application: Removing DNA/RNA from other biologicals

Reducing viscosity caused by nucleic acids, Purification of viral vaccines, viral vectors for vaccine

Preparing samples in western blot analysis, two-dimensional gel electrophoresis, ELISA and chromatography;

Preventing cell clumping.

Concentration: 250U/μl

Unit Definition: One unit is defined as the amount of enzyme required to produce a change in absorbance at 260nm of 1.0 in the time of 30min, under optimum conditions with excess substrate.

Molecular Weight: 27.8kD

Specific Activity: $\geq 1.1 \times 10^6$ U/mg

Express System: *E.coli*

Quality Statement: Manufactured to the GMP guidelines

Accepted by the FDA's Drug Master Files (DMF) database, DMF#036799

Product Component

SKU	Size	Component	Code	Volume
GMP-NUC-SE101-250kU	250kU	MaxNuclease(250U/μl)	GMP-NUC-SE101-11	1ml
GMP-NUC-SE101-5MU	5MU	MaxNuclease(250U/μl)	GMP-NUC-SE101-12	20ml

Product Description

DMF filed- this product has been submitted to FDA's Drug Master Files (DMFs) and is granted the DMF #036799.

MaxNuclease is a non-specific nucleic acid endonuclease derived from *Serratia Marcescens* that degrades both DNA and RNA such as double-stranded, single-stranded, linear, circular or supercoiled. No base preference is observed. MaxNuclease hydrolyzes internal phosphodiester

bonds between the nucleotides and completely digests nucleic acids into two to five bases in length.

Expressed in *E.coli* that carries the nuclease gene from *Serratia Marcescens*.

QC Standard

Item	Acceptable Standards
Activity	≥250U/μl
Purity	≥95% (Tris-Bis PAGE) ≥99% (SEC-HPLC)
Residual Protease	Negative
Endotoxin	≤0.01EU/kU
Residual Host Protein	≤10ppm
Sterility	Negative
Mycoplasma	Negative

See certificate of analysis for more details.

Reaction Conditions

Condition	Optimal*	Effective*
Mg ²⁺	1-2mM	1-10mM
Monovalent cation concentration (Na ⁺ , K ⁺ , etc)	0-100mM	0-300mM
pH	8.0-10.0	4.0-10.0
Temperature	37°C	0-50°C
PO ₄ ³⁻	0-10mM	0-80mM

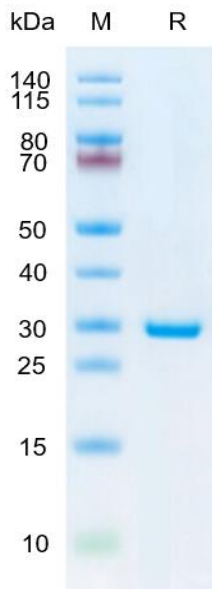
Optimal* is defined as the condition under which MaxNuclease retains > 90% of its activity.

Effective* is defined as the condition under which MaxNuclease retains > 15% of its activity.

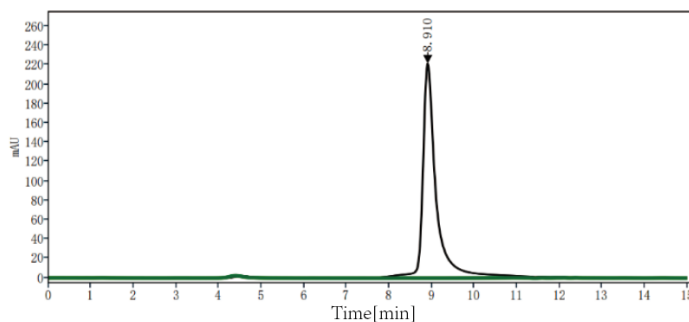
Validation Images

1. Purity

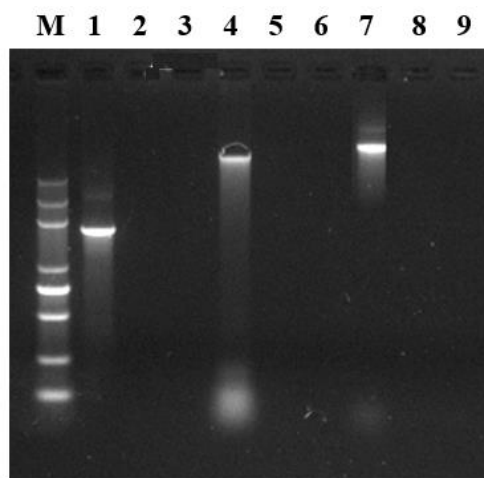
Tris-Bis PAGE(≥95%)



SEC-HPLC(≥99%)



2. Effect of degrading nucleic acids



Lane M: DNA marker
 Lane 1: PCR product
 Lane 2: PCR product+1U MaxNuclease
 Lane 3: PCR product+1U competitor
 Lane 4: genomic DNA
 Lane 5: genomic DNA+1U MaxNuclease
 Lane 6: genomic DNA+1U competitor
 Lane 7: plasmid DNA
 Lane 8: plasmid DNA +1U MaxNuclease
 Lane 9: plasmid DNA +1U competitor

Cautions

1. Inappropriate salt ion concentrations can inhibit MaxNuclease. In addition, denaturants, protein precipitants, etc. in the system can also inhibit the activity of MaxNuclease.
2. Please wear lab coat and disposable gloves during operation.