Ver. HB230808

Salt Active UltraNuclease GMP-grade (250 U/μL)

Product description

Salt Active UltraNuclease GMP-grade from YEASEN is expressed and purified in *Escherichia coli* (*E. coli*) by genetically engineered and prepared under the GMP environments. This nonspecific, recombinant endonuclease has optimum activity at high salt concentration (500mM NaCl), which can improve efficiency and yield in various workflows. This enzyme can reduce the viscosity of cell supernatant and cell lysate in scientific research, increase protein purification efficiency and enhance protein functional research. The product can also reduce host nucleic acid residues to pg-grade, improving the performance and safety of biological products of applications including virus purification, vaccine manufacturing, and protein/polysaccharide pharmaceutical manufacturing. Besides, the product can also be applied to prevent the clumping of human peripheral blood mononuclear cells (PBMC) in cell therapy and vaccine development.

Salt Active UltraNuclease GMP-grade is provided in the form of a sterilized reagent, eluted in buffer (25 mM Tris-HCl, 5 mM $MgCl_2$, 500 mM NaCl, 50% glycerol), with the appearance of a colorless, transparent liquid. This product is produced by GMP process requirements and provided in a liquid form.

Components

Components No.	Name	20159ES25 (25 KU)	20159ES60 (100 KU)	20159ES80 (1 MU)	20159ES90 (5 MU)
20159	Salt Active UltraNuclease GMP-grade (250 U/μL)	100 μL	400 μL	4 mL	20 mL

Specifications

Expression Host	Recombinantly produced in *Escherichia coli*
Molecular Weight	24.7kDa
Isoelectric point	9.61
Purity	≥ 99%
Storage Buffer	25 mM Tris-HCl, 5 mM $MgCl_2$, 500 mM NaCl, 50% glycerol
Unit Definition	The definition of one activity unit (U) is the amount of enzyme that causes a △A260=1.0 in 30 minutes at 37℃ in the excess of substrate at the certain condition.

Shipping and Storage

The product should be stored at -25 ~ -15℃ for two years. If the product is opened and has been stored at 4℃ for more than one week, we recommend filtering the product to prevent microbial contamination.

Instructions

1. Sample Collection

Adherent cells: remove the medium, wash the cells with PBS, and remove the supernatant.

Suspension cells: collect the cells by centrifugation, wash the cells with PBS, centrifuge at 6,000 rpm for 10

min, collect the pellet.

Escherichia coli: collect the bacteria by centrifugation, wash once with PBS, centrifuge at 8,000 rpm for 5 min, and collect the pellet.

2. Sample Treatment

Treat the collected cell pellets with lysis buffer at the ratio of mass(g) to volume(mL) 1:(10-20), or by mechanical or chemical methods on ice or at room temperature (1g of cell pellet contains about 10^9 cells).

3. Enzyme Treatment

Add the moderate amount of $MgCl_2$ to the reaction system and adjust the pH to 8-9.

Add the enzyme according to the ratio of 250 Units to digest 1 g of cell pellets, incubate at 37° C for more than 30 minutes. If you reduce the enzyme input or decrease the reaction temperature, you should extend the reaction time appropriately to get the equivalent digestion performance.

4. Supernatant Collection

Centrifuge at 12,000 rpm for 30 minutes and collect the supernatant.

Note: If the solution is acidic or alkaline, or contains high concentrations of salt, detergents, or denaturants, please increase the enzyme dosage or extend the treatment time accordingly.

Notes

Please wear the necessary PPE, such lab coat and gloves, to ensure your health and safety!