

Serratia marcescens nuclease

Chemical Properties

CAS No. : 9025-65-4

Formula:

Molecular Weight:

Store at low temperature

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.

Biological Description

Description	Serratia marcescens nuclease (EC 3.1.30.2) is a non-specific endonuclease enzyme derived from the bacterium Serratia marcescens that exhibits potent digestive activity toward both DNA and RNA substrates by cleaving phosphodiester bonds, granting it broad utility in molecular biology applications for nucleic acid degradation and removal.
Targets(IC50)	Others
In vitro	<p>Instructions</p> <p>I. Sample Preparation</p> <ol style="list-style-type: none"> 1. Adherent cells: Remove the culture medium, wash the cells with PBS, and discard the supernatant. 2. Suspension cells: Collect the cells by centrifugation, wash the cells with PBS, centrifuge at 6,000 rpm for 10 minutes, and collect the pellet. 3. Escherichia coli: Collect the cells by centrifugation, wash once with PBS, centrifuge at 8,000 rpm for 5 minutes, and collect the pellet. <p>Note: When washing the cells, be gentle and use a pipette to gently tap the cells to avoid disrupting the cells.</p> <p>II. Sample Preparation</p> <p>Cell lysis can be performed using the following two Methods:</p> <ol style="list-style-type: none"> 1. The collected cell pellet can be lysed at a mass (g) to volume (mL) ratio of 1:10-20. 2. Alternatively, cells can be lysed mechanically or chemically on ice or at room temperature (approximately 109 cells per gram). <p>III. Enzyme Addition</p> <ol style="list-style-type: none"> 1. Add an appropriate amount of MgCl₂ to adjust the Mg₂₊ concentration in the reaction system to 1-5 mM and the pH to 8-9. 2. Add enzyme at a ratio of 250 U to 1 g of cell pellet and incubate at 37°C for at least 30 minutes. You can also customize the dosage based on the recommended dosage, increasing the enzyme dosage within a certain range to reduce the digestion time. <p>IV. Supernatant Collection</p> <p>Centrifuge the cell lysate at 12,000 rpm for 30 minutes to obtain the supernatant for subsequent experiments.</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. Enzyme activity is affected by factors such as ion concentration, reaction temperature, and pH. It is recommended to determine the optimal concentration for initial use. 2. If the solution is high in salt, slightly acidic or alkaline, or contains high concentrations

A DRUG SCREENING EXPERT

In vitro	of detergents or denaturants, increase the enzyme dosage or extend the incubation time.
----------	---

Reference

Vafina G, et al. Endonuclease from Gram-Negative Bacteria *Serratia marcescens* Is as Effective as Pulmozyme in the Hydrolysis of DNA in Sputum. *Front Pharmacol*. 2018 Feb 16;9:114.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel: 781-999-4286 E_mail: info@targetmol.com Address: 34 Washington Street, Wellesley Hills, MA 02481