

Nuclease 46L

N046L

Product Description

Nuclease 46L is a broad specificity food grade endonuclease that is highly efficient for the removal of DNA in a wide range of biotechnology applications. Nuclease 46L is a recombinant *Serratia marcescens* endonuclease produced in *Pichia pastoris*. Nuclease 46L is supplied as a liquid formulation in 10 mM potassium phosphate buffer pH 7.5 and 50% glycerol. Nuclease 46L is a cost-effective solution for the reduction of nucleic acids that can add value in the following applications:

- Removal of residual DNA from fermented proteins and enzymes.
- Reduction of nucleic acids to improve efficiency of downstream processing (DSP) and increase of the overall DSP protein recovery.
- General applications where DNA removal or reduction is desirable.

Specification

Test	Specification
Appearance (colour)	Yellow Liquid. Colour can vary from batch to batch.
Molecular weight	Nuclease 46L consists of two subunits with a molecular weight of ~27 kDa each.
Nuclease Activity	≥ 250 U/μl (no proteolytic side activity)
Unit Definition	One unit is defined as the amount of enzyme required to digest herring sperm DNA, equivalent to a ΔA_{260nm} of 1.0 in 30 minutes at 37°C.
pH Range	6 - 10
Temperature Range	5 - 40°C
Cofactor	Mg ²⁺ (1 - 2 mM)

Dosage

A dosage of 250 - 700 units of endonuclease per mL of liquid material and 1 - 2mM Mg²⁺ (e.g., MgCl₂) are recommended for removal of DNA from fermented proteins and enzymes. In most processes, a temperature range of 5 - 20°C and incubation time of 2 - 12 hours are recommended for a liquid material sensitive to higher temperature. However, trials will be required in order to determine the exact dosage for each application. Lower dosages may be sufficient for improving DSP efficiency and other general applications where DNA reduction/removal is desirable.

Storage Conditions

Store at -20°C. This product will maintain at least 90% of its activity for 12 months. Product might be shipped at different temperatures without affecting its activity when following storage condition guidelines upon receipt.

Health & Safety

Always read the Material Safety Datasheet (MSDS) before use and retain. If you are in any doubt about recommended product handling and safety, please contact Biocatalysts before use. Generally, when using enzymes avoid contact with the skin and eyes and do not breathe dusts or aerosols containing them.

Food Status

Material complies with the JECFA/FAO/WHO and FCC recommended specifications for enzymes used in food processing.

Application Solution

It is the responsibility of the end user to ensure country and application specific compliance. Enzyme legislation is in place in various countries, please contact Biocatalysts for assistance on country specific regulations. Not authorised for use in a process as claimed in US20200140838A1 and its international counterparts.

Availability

Please enquire for pack sizes.

Allergens

Refer to allergen statement.

GM Status

This product has been manufactured using a fermentation process of a Genetically Modified Microorganism (GMM). No additional materials sourced from Genetically Modified Organisms (GMOs) have been used during the manufacturing process. No GMM's are present in the final product. This product does therefore not require labelling as GMO on food labels.

Quality

1. Food Safety Policy - The Company operates a Hazard Analysis at Critical Control Points (HACCP) system. This ensures that ingredients and the production environment are regularly monitored for contamination and that the processes are designed to produce safe products every time.
2. Good Manufacturing Practice (GMP) - The Company's integrated management system encompasses Total Quality, Health and Safety, Food Safety and GMP.
3. Biocatalysts Ltd is certified to ISO9001, ISO14001, ISO45001 and FSSC 22000