

PRODUCT INFORMATION

NuCLEANase[®], food grade

Recombinant *Serratia marcescens* endonuclease, liquid

Recombinant *Serratia marcescens* endonuclease produced by microbial fermentation with a *Bacillus* species. The production strain used in the manufacturing of the product is a Genetically Modified Organism (GMO) of safety level S1.

NuCLEANase, food grade is supplied as brownish liquid formulated in potassium phosphate buffer pH 8.0 and 50 % (v/v) glycerol. Color can vary from batch to batch. Color intensity is not an indication of enzyme activity or quality.

Typical applications

The efficient degradation of nucleic acids can be a crucial step in many industrial applications.

c-LEcta's **NuCLEANase** is a versatile endonuclease that provides cost-efficient solutions therefor, for example, but not limited to:

- Residual host DNA removal from biotech products for regulatory compliance
- Viscosity reduction and efficient purification during down-stream processing of fermentation processes
- Release and/or production of flavoring nucleotides
- Improved bioavailability of nucleotides in certain feed products
- DNA degradation for biofilm removal or prevention

Quality and Certificates

NuCLEANase, food grade is supplied in food grade quality and conforms to the recommended purity criteria for enzyme preparations specified in the Food Chemicals codex (FCC) and the General Specifications and Considerations for Enzyme Preparations Used in Food Processing of the Joint WHO/FAO Expert Committee on Food Additives (JECFA).

The enzyme preparation is manufactured without the use of antibiotics and without raw materials from animal origin.

NuCLEANase, food grade is kosher and halal certified.

c-LEcta is a registered Food Business Operator and ISO 9001 / EXCI Pact certified.



NuCLEANase[®] is a registered trademark of c-LEcta GmbH in the European Union (EU), United States of America (USA), United Kingdom (UK), China (CN) and India (IN).

It shall be the responsibility of the user to determine the suitability and legal status of this product for the intended use. The content of this document is subject to change without further notice and does not constitute a representation or warranty of any kind.

Storage Conditions and Stability

NuCLEANase, food grade is to be stored at $-20\text{ °C} \pm 5\text{ °C}$. The product is stable for a period of at least 19 months from the date of product release under proper storage conditions.

Shipping temperature may differ from storage temperature without affecting product quality.

Enzyme Characteristics

The enzyme catalyzes the hydrolysis of phosphodiester bonds of all forms of DNA and RNA like single-stranded, double-stranded, linear, circular or supercoiled forms into smaller oligonucleotides of mainly 2-4 base pairs.

| | |
|-------------------------------|----------------------|
| Molecular weight | 27 kDa (per monomer) |
| pH optimum | pH 8.0 - 9.5 |
| Temperature optimum | 35 - 40 °C |
| Isoelectric point (pI) | ~ pH 6.85 |
| Cofactor | Mg ²⁺ |

Unit definition

One unit will digest salmon sperm DNA to acid-soluble oligonucleotides equivalent to a $\Delta A_{260\text{nm}}$ of 1.0 in 30 min at pH 8.0 at 37 °C.

Sales and Contact

| Art. No. | Size | Activity |
|-----------------|-------------|-----------------|
| 20804-4S | Sample | ≥ 30 MU/L |
| 20804-3M | 3 MU | ≥ 30 MU/L |
| 20804-15M | 15 MU | ≥ 30 MU/L |
| 20804-4 | other sizes | ≥ 30 MU/L |

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