

CERTIFICATE OF ANALYSIS

Micrococcal Nuclease

#EN0181 8000u

Lot: **Quality guaranteed:**

Concentration: 300u/μl

Store at -20°C

2

In total 1 vials.

Description

Micrococcal nuclease (S7 Nuclease) is a relatively nonspecific endo-nuclease that digests single-stranded and double-stranded nucleic acids, but is more active on single-stranded substrates. Cleavage of DNA or RNA occurs preferentially at AT or AU-rich regions yielding mononucleotides and oligonucleotides with terminal 3'-phosphates.

The enzyme activity is strictly dependent on Ca²⁺.

Source

E.coli cells carrying a cloned *nuc* gene encoding *Staphylococcus aureus* extracellular nuclease (micrococcal nuclease).

Unit Definition

One unit of the enzyme releases 1.0 A₂₆₀ unit of acid-soluble products in 30min at 37°C.

Activity Assay

100mM sodium glycine (pH 8.6), 10mM CaCl₂ and 4.5mM calf thymus DNA.

Storage Buffer

20mM HEPES-KOH (pH 7.6), 50mM NaCl and 50% glycerol.

Applications

- Hydrolysis of nucleic acids in crude cell-free extracts (1).
- Sequencing of RNA (2).
- Studies of chromatin structure (3).
- A model for protein folding and for structure-function studies (4, 5).

Inactivation

By the addition of EGTA or EDTA.

QUALITY CONTROL ASSAY DATA

Physical Purity

Micrococcal Nuclease is >95% pure as determined by SDS-polyacrylamide gel electrophoresis after staining with Coomassie Brilliant Blue R-250.

Quality authorized by:



Jurgita Zilinskiene

References

1. Pelham, H.R.B., Jackson, R.J., An efficient mRNA-dependent translation system from reticulocyte lysates, *Eur. J. Biochem.*, 67, 247-256, 1976.
2. Krupp, G., Gross, J.H., Rapid RNA sequencing: nucleases from *Staphylococcus aureus* and *Neurospora crassa* discriminate between uridine and cytidine, *Nucleic Acids Res.*, 6, 3481-3490, 1979.
3. Telford, D.J., Stewart, B.W., Micrococcal nuclease: its specificity and use for chromatin analysis, *Int. J. Biochem.*, 21, 127-137, 1989.
4. Tucker, P.W. et al., Staphylococcal nuclease reviewed: a prototypic study in contemporary enzymology. IV. The nuclease as a model for protein folding, *Molec. Cell. Biochem.*, 23, 131-140, 1979.
5. Torchia, D.A., et al., Staphylococcal nuclease: sequential assignments and solution structure, *Biochemistry*, 27, 5509-5524, 1989.

PRODUCT USE LIMITATION.

This product is developed, designed and sold exclusively *for research purposes and in vitro use only*. The product was not tested for use in diagnostics or for drug development, nor is it suitable for administration to humans or animals. Please refer to www.fermentas.com for Material Safety Data Sheet of the product.