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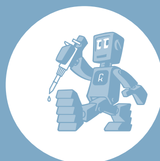

roboklon

S1 Nuclease

(*Aspergillus oryzae*)

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(Aspergillus oryzae)

Cat. No.	Size
E1335-01	10 000 units
E1335-02	50 000 units

Unit Definition:
One unit is the amount of enzyme required to hydrolyze 1 µg of denatured DNA into acid-soluble form in 1 min at 37°C.

Storage Conditions:
Store at -20˚C

Non-specific endonuclease, active primarily on single-stranded DNA and RNA.

Description:

- Catalyzes degradation of single-stranded nucleic acids into oligonucleotides and 5'-mononucleotides (1).
- Cleaves both single-stranded DNA and RNA, with stronger DNAse acitivity.
- Double-stranded DNA, double-stranded RNA and DNA-RNA hybrids are resistant to degradation at moderate enzyme concentration.
- Capable of cleavage of double-stranded nucleic acids at nicks, mismatches and small gaps (2).
- Relaxes/linearizes supercoiled plasmids.
- Removes protruding single-stranded ends.
- Used for S1 mapping of nucleic acids.
- Requires Zn^{2+} ions for activity.
- The enzyme is active up to 65°C.

5x Reaction Buffer:

150 mM sodium acetate (pH 4.6 at 25˚C), 1.4 M NaCl, 5 mM $ZnSO_4$.

Storage Buffer:

20 mM Tris-HCl (pH 7.5 at 22°C), 50 mM NaCl, 0.1 mM $ZnCl_2$ and 50% (v/v) glycerol.

Assay Conditions:

30 mM sodium acetate (pH 4.6), 1 mM zinc acetate, 50 mM NaCl, 0.5 mg/ml of activated DNA, 5% [v/v] glycerol. Incubation is at 37°C for 10 min in a reaction volume of 0.5 ml.

Quality Control:

All preparations are assayed for contaminating exonuclease and double-stranded DNase activities.

References:

1. *Berg, A.J. et al. (1977) Cell 12, 721.*
2. *Sambrook, J. et al. (1989) Molecular cloning: A laboratory Manual, second edition, pp. 5.78-5.79, Cold Spring Harbor, New York.*