Tinzyme Co., Limited

Email: sales@tinzyme.com Website: www.tinzyme.com
Tel: +86-755-86134126 WhatsApp/Facebook/Twitter: +86-189-22896756

Endonuclease IV(Nfo)

Product Number: EDN04

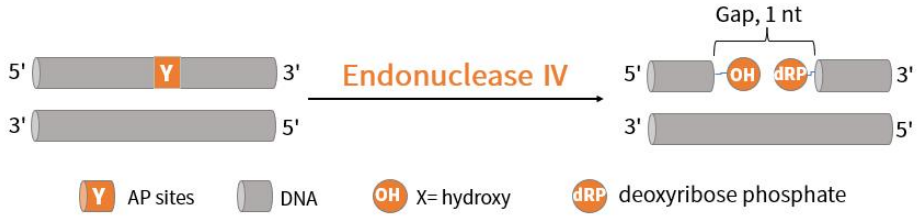
Shipping and Storage

1. Storage conditions: -Stored at 20℃ or -80℃, with a shelf life of one year. Try to avoid repeated freeze-thaw cycles as much as possible.
2. Transportation conditions: Low temperature dry ice transportation.

Description

Endonuclease IV, also known as Nfo, is a multifunctional endonuclease involved in DNA damage repair. Its main function is to recognize the apurinic/apyrimidinic site, abbreviated as AP site, in double stranded DNA molecules; And by cutting the first phosphodiester bond at the 5 'end of the AP site, 3' - hydroxyl and 5 '- deoxyribose phosphate terminus (dRP) were generated. In addition, the enzyme also has 3 '- diesterase activity, which can release phosphoglyceraldehyde, intact deoxyribose 5' - phosphate, and phosphate 3 '- diesterase activity from the 3' end of DNA; And the 3 '-5' exonuclease activity that removes nucleotides from the 3 '-5' direction on the DNA strand.

This product can be used synchronously with our isothermal amplification series products.



Schematic diagram of Endonuclease IV reaction principle

Application

1. Alkaline elution;
2. Alkaline hydrolysis;
3. Single cell gel electrophoresis (comet assay).

Quality control

1. Detection of residual nucleases: Incubate 20U of this product with 0.6μg of λ - HindIII at 74℃ for 1 hour, and the electrophoresis band of DNA remains unchanged.
2. Nucleic acid endonuclease residue detection: 20μL reaction system, 10 U of this product and 1μg of λ DNA, incubated at 37℃ for 4 hours, and the electrophoresis band of DNA remained unchanged.
3. RNase residue detection: Incubate 20U of this product with 1μg of Hela cell total RNA at 37℃ for 30 minutes, and the electrophoresis band of RNA remains unchanged.
4. E. coli DNA residue detection: In a 50μL system, the E. coli 16s rDNA gene was amplified using ddH2O as a template. After 30 cycles, 1% agarose gel electrophoresis was performed, and no amplification bands were found.

Specification

1. Source: Microbial recombinant protein
2. Molecular weight: 32.5 Kd (SDS-PAGE)
3. Purity: > 90% (SDS-PAGE detection)
4. Buffer composition: 10 mM Tris HCl, 250 mM NaCl, 1 mM DTT, 0.1 mM EDTA, 0.15 % Triton ® X-100, 200 μg/ml BSA, 50 % Glycerol, pH 7.4 @25℃

5. Enzyme activity: 10 U/μLl
6. Unit definition: The amount of enzyme required to cleave 1 pmol of a 34 bp oligonucleotide double stranded with one AP site * within 1 hour at 37℃ in a 10μL reaction system.
7. Method for creating AP site: At 37 ℃, treat 10 pmol of a 34 bp oligonucleotide double stranded with one uracil base using one enzyme unit of uracil DNA glycosidase UDG, and react for 2 minutes.

Note

This product is only for scientific research purposes and is strictly prohibited from being used for human experiments.