Endonuclease IV

Cat. No. : RK20522

Product Components

Components	Component Number	Concentration	1,000 U	5,000 U
Endonuclease IV	RM20512	10,000 U/mL	100 μL	500 μL
10X ABuffer C	RM20127	10X	1.25 mL	2 × 1.25 mL

Product Description

Endonuclease IV derived from *E. coli* recognizes the depurine/depyrimidine (AP) site on the double-stranded DNA molecule, and cleaves the first phosphodiester bond at the 5' ´end of the AP site to form 3'-OH and 5'dRP (deoxyribonucleic acid terminus). In addition, Endonuclease IV has 3'diesterase activity, which releases phosphoglyceraldehyde, intact deoxyribose 5' -phosphate, and phosphoric acid from the 3' end of DNA. The best substrate for this enzyme is AP double-stranded DNA, but it is also active against AP single-stranded DNA.

It is applicable to:

- DNA damage repair
- Single cell gel electrophoresis (Comet assay)
- DNA structure studies
- SNP analysis

Product Source

The gene for Endonuclease IV from *E. coli* was expressed and purified from *E. coli*.

Unit Definition

One unit is defined as the amount of enzyme required to cleave 1 pmol of a nucleotide double-stranded substrate containing a single AP site* in a total reaction volume of 10 μL in 1 hour at 37°C.

** An AP site is created by treating 10 pmol of a 34 mer oligonucleotide duplex containing a single uracil residue with 1 unit of Uracil-DNA Glycosylase (UDG) for 2 minutes at 37°C.*

Reaction Conditions

1X ABuffer C, Incubate at 37°C

1X ABuffer C

50 mM Tris-HCl, 100 mM NaCl, 10 mM $MgCl_2$, 1 mM DTT, pH 7.9 @ 25°C

Storage Temperature

-20°C

Storage Conditions

10 mM Tris-HCl, 250 mM NaCl,1mM DTT, 0.1 mM EDTA, 200 μg/mL BSA, 50% Glycerol, 0.15% Triton®X-100, pH 7.4 @ 25°C

Heat Inactivation

85°C for 20 min