

Active Recombinant Human Topoisomerase (DNA) I, C-terminal Domain

Cat. No. TOP1-1196H Lot. No. (See product label)

SPECIFICATION

Species Human

Source Sf9 Cells

Description

Human DNA Topoisomerase I catalyzes the relaxation of both positive and negative supercoils without the requirement of energy. In addition to DNA replication and transcriptional activation, DNA Topoisomerase I also plays a major role in pre-mRNA splicing, recombination, chromatin remodeling, and other DNA or RNA templating activities. The C-terminal domain of DNA Topoisomerase I expanded from amino acids 713 to 765 is highly conserved and connected to the core domain by a poorly conserved linker domain (residues 636-713). An active site tyrosine has been characterized at position 723. Mutation from tyrosine to phenylalanine at position 723 preferentially binds the supercoiled DNA rather than relaxed DNA in the mixture of supercoiled and relaxed DNAs. The C-terminal domain of DNA Topoisomerase I protein (residues 651-765) was expressed in baculovirus system and purified by using an affinity column and FPLC chromatography. Purified Topo I CTD can be reconstituted with the core domain for *in vitro* DNA relaxation assay. Purified Topo I protein (CTD) is greater than 95% homogeneous and contains no detectable protease, DNase, and RNase activity.

Form

Liquid. Supplied in 20 mM Tris-HCl, pH 8.0, 100 mM KCl, 0.2 mM EDTA, 1 mM DTT, 20 % glycerol.

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Purity	> 95% by SDS-PAGE.
Activity	1-10 ng of Topo I CTD can be reconstituted with core domain to restore DNA relaxation activity and contains no detectable DNA relaxation activity by itself.
Usage	For in vitro use only.
Storage	Quality guaranteed for 12 months store at -80°C. Avoid freeze / thaw cycles.

GENE INFORMATION

Gene Name	TOP1 topoisomerase (DNA) I [Homo sapiens]
Synonyms	TOP1; topoisomerase (DNA) I; TOPI; DNA topoisomerase1; EC 5.99.1.2; OTTHUMP00000031713; DNA topoisomerase I; topoisomerase I; type I DNA topoisomerase
Gene ID	7150
mRNA Refseq	NM_003286
Protein Refseq	NP_003277
MIM	126420
UniProt ID	P11387
Chromosome Location	20q12-q13.1
Function	ATP binding; DNA topoisomerase (ATP-hydrolyzing) activity; DNA topoisomerase

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type I activity; chromatin binding; nucleotide binding; protein binding

PDB rendering based
on 1a31.



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