10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

TOP1 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP13897a

Product Information

Application	WB, IF, E
Primary Accession	P11387
Other Accession	Q9WUL0, Q04750, Q07050, NP_003277.1
Reactivity	Human
Predicted	Hamster, Mouse, Rat, Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB34034
Calculated MW	90726
Antigen Region	2-31

Additional Information

Gene ID	7150
Other Names	DNA topoisomerase 1, DNA topoisomerase I, TOP1
Target/Specificity	This TOP1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 2-31 amino acids from the N-terminal region of human TOP1.
Dilution	WB~~1:1000 IF~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	TOP1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	TOP1
Function	Releases the supercoiling and torsional tension of DNA introduced during the DNA replication and transcription by transiently cleaving and rejoining one strand of the DNA duplex. Introduces a single-strand break via

transesterification at a target site in duplex DNA. The scissile phosphodiester is attacked by the catalytic tyrosine of the enzyme, resulting in the formation of a DNA-(3'-phosphotyrosyl)- enzyme intermediate and the expulsion of a 5'-OH DNA strand. The free DNA strand then rotates around the intact phosphodiester bond on the opposing strand, thus removing DNA supercoils. Finally, in the religation step, the DNA 5'-OH attacks the covalent intermediate to expel the active-site tyrosine and restore the DNA phosphodiester backbone (By similarity). Regulates the alternative splicing of tissue factor (F3) pre-mRNA in endothelial cells. Involved in the circadian transcription of the core circadian clock component BMAL1 by altering the chromatin structure around the ROR response elements (ROREs) on the BMAL1 promoter.

Cellular Location Nucleus, nucleolus. Nucleus, nucleoplasm. Note=Diffuse nuclear localization with some enrichment in nucleoli. On CPT treatment, cleared from nucleoli into nucleoplasm. Sumoylated forms found in both nucleoplasm and nucleoli

Tissue Location Endothelial cells..

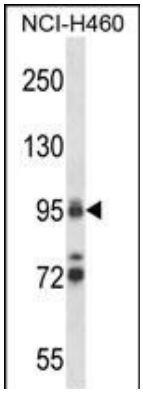
Background

This gene encodes a DNA topoisomerase, an enzyme that controls and alters the topologic states of DNA during transcription. This enzyme catalyzes the transient breaking and rejoining of a single strand of DNA which allows the strands to pass through one another, thus altering the topology of DNA. This gene is localized to chromosome 20 and has pseudogenes which reside on chromosomes 1 and 22.

References

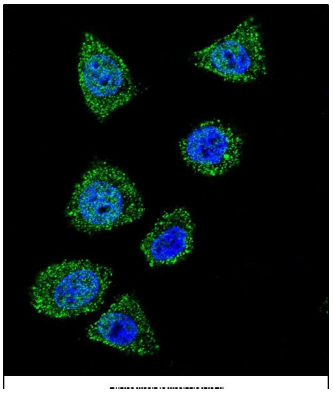
Kjeldsen, E., et al. Anticancer Res. 30(9):3257-3265(2010)
Reinhold, W.C., et al. Cancer Res. 70(6):2191-2203(2010)
Tesauro, C., et al. Biochem. J. 425(3):531-539(2010)
Ballot, C., et al. Mol. Cancer Ther. 8(12):3307-3317(2009)
Lebedeva, N.A., et al. Biochemistry Mosc. 74(11):1278-1284(2009)

Images



TOP1 Antibody (N-term) (Cat. #AP13897a) western blot analysis in NCI-H460 cell line lysates (35ug/lane).This demonstrates the TOP1 antibody detected the TOP1 protein (arrow).

Confocal immunofluorescent analysis of TOP1 Antibody (N-term)(Cat#AP13897a) with Hela cell followed by Alexa Fluor 488-conjugated goat anti-rabbit lgG (green).DAPI was used to stain the cell nuclear (blue).



Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.