

Anti-Topoisomerase 1 Antibody

Catalog # AP96087

Product Information

Application	WB, FC, IF/IC
Primary Accession	P11387
Reactivity	Human, Mouse
Host	Mouse
Clonality	Monoclonal
Calculated MW	90726

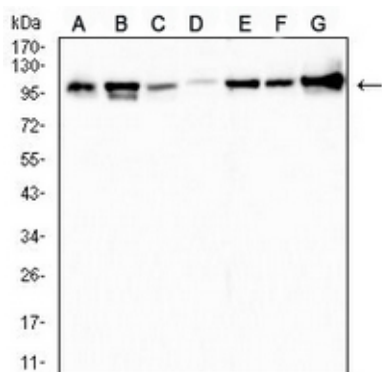
Additional Information

Gene ID	7150
Other Names	DNA topoisomerase 1; DNA topoisomerase I
Target/Specificity	Recombinant fusion protein of human Topoisomerase 1 expressed in E. Coli
Dilution	WB~~WB (1/500 - 1/1000) FC~~FC (1/100 - 1/200) IF/IC~~N/A
Format	Mouse IgG1. Liquid in PBS, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

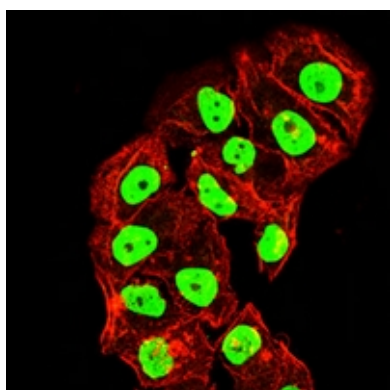
Protein Information

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

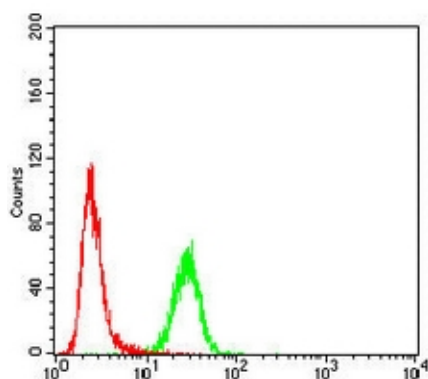
Images



Western blot analysis of Topoisomerase 1 expression in HUVEC (A), Jukat (B), MCF7 (C), PC12 (D), HeLa (E), NIH/3T3 (F), HCT116 (G) whole cell lysates. (Predicted band size: 91 kD; Observed band size: 95 kD)



Immunofluorescent analysis of Topoisomerase 1 staining in HeLa cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a humidified chamber. Cells were washed with PBST and incubated with an AF488-conjugated secondary antibody (green) in PBS at room temperature in the dark. Phalloidin - AF594 was used to stain Actin filaments (red). DAPI was used to stain the cell nuclei (blue).



Flow cytometric analysis of HeLa cells using Anti-Topoisomerase 1 Antibody (green) and negative control (red).

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