Mouse TOP1 Monoclonal Antibody | anti-TOP1 antibody

TOP1 Antibody (N-term)

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA290935	**Mouse**	**HumanPredicted: Mouse, Rat**	**ELISA, Flow Cytometry, Functional Assay, Western Blot**

PRODUCT SYNONYMS

TOP1; Monoclonal Antibody; TOP1 Antibody (N-term); DNA topoisomerase 1; DNA topoisomerase I; anti-TOP1 antibody

PRODUCT SPECIFICATIONS

Host	Mouse
Reactivity	Human Predicted: Mouse, Rat
Clonality	Monoclonal
Isotype	IgG1,kappa
Specificity	This TOP1 antibody is generated from a mouse immunized with a recombinant protein from the N-terminal region of human TOP1.
Form/Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.
Sequence Length	765
Applicable Applications for anti-TOP1 antibody	ELISA, FCM/FACS (Flow Cytometry), WB (Western Blot)
Function	Releases the supercoiling and torsionaltension of DNA introduced during the DNAreplication and transcription by transientlycleaving and rejoining one strand of the DNAduplex. Introduces a single-strand break viatransesterification at a target site in duplexDNA. The scissile phosphodiester is attackedby the catalytic tyrosine of the enzyme,resulting in the formation of aDNA-(3'-phosphotyrosyl)-enzymeintermediate and the expulsion of a 5'-OHDNA strand. The free DNA strand then rotatesaround the intact phosphodiester bond on theopposing strand, thus removing DNAsupercoils. Finally, in the religation step, theDNA 5'-OH attacks the covalent intermediateto expel the active-site tyrosine and restorethe DNA phosphodiester backbone (Bysimilarity). Regulates the alternative splicingof tissue factor (F3) pre-mRNA in endothelialcells. Involved in the circadian transcription ofthe core circadian clock componentARNTL/BMAL1 by altering the chromatinstructure around the ROR response elements(ROREs) on the ARNTL/BMAL1 promoter.
Cellular Location	Nucleus, nucleolus. Nucleus, nucleoplasm.Note=Diffuse nuclear localization with someenrichment in nucleoli. On CPT treatment,cleared from nucleoli into nucleoplasm.Sumoylated forms found in both nucleoplasmand nucleoli.
Tissue Location	Endothelial cells. Releases the supercoiling and torsional tensionof DNA introduced during the DNA replicationand transcription by transiently cleaving andrejoining one strand of the DNA duplex. Introduces a single-strand break viatransesterification at a target site in duplex DNA. The scissile phosphodiester is attacked by the catalytic tyrosine of the enzyme, resulting in the formation of aDNA-(3'-phosphotyrosyl)-enzyme intermediate and the expulsion of a 5'-OHDNA strand. The free DNA strand then undergoespassage around the unbroken strand thusremoving DNA supercoils. Finally, in thereligation step, the DNA 5'-OH attacks thecovalent intermediate to expel the active-sitetyrosine and restore the DNA phosphodiesterbackbone (By similarity). Regulates thealternative splicing of tissue factor (F3)pre-mRNA in endothelial cells.
Preparation and Storage	Maintain refrigerated at 2-8 degree C for up to 2 weeks. For long term storage store at -20 degree C in small aliquots to prevent freeze-thaw cycles.

IMAGES

FCM/FACS (Flow Cytometry)
Flow cytometric analysis of Hela cells using TOP1 Antibody (N-term)(green) compared to an isotype control of mouse IgG1(blue). It was diluted at 1:25 dilution. An Alexa Fluor 488 goat anti-mouse IgG at 1:400 dilution was used as the secondary antibody.

WB (Western Blot)
Western blot analysis of lysates from MCF-7,Jurkat,PC-12 cell line (from left to right), using TOP1 Antibody (N-term). It was diluted at 1:1000 at each lane. A goat anti-mouse IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody.Lysates at 20ug per lane.

ADDITIONAL INFORMATION

Related Product Information for anti-TOP1 antibody	Description: Purified Mouse Monoclonal Antibody (Mab) Background: 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 undergoes passage around the unbroken 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.
References	D'Arpa P.,et al.Proc. Natl. Acad. Sci. U.S.A. 85:2543-2547(1988). Kunze N.,et al.J. Biol. Chem. 266:9610-9616(1991). Ota T.,et al.Nat. Genet. 36:40-45(2004). Deloukas P.,et al.Nature 414:865-871(2001). Mural R.J.,et al.Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.

NCBI AND UNIPROT INFORMATION

NCBI GI #	11225260
NCBI GeneID	7150
NCBI Accession #	NP_003277.1
NCBI GenBank Nucleotide #	NP_003277.1
UniProt Accession #	P11387
Molecular Weight	H=91 M=91 Rat= 91kDa
NCBI Official Full Name	DNA topoisomerase 1
NCBI Official Synonym Full Names	DNA topoisomerase I
NCBI Official Symbol	TOP1
NCBI Official Synonym Symbols	TOPI
NCBI Protein Information	DNA topoisomerase 1
UniProt Protein Name	DNA topoisomerase 1
UniProt Gene Name	**TOP1**
UniProt Entry Name	TOP1_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: https://stage.aaabiotech.com/monoclonal/top1-antibody-flow-cytometry-western-blot-elisa/290935