

**TOP1 Antibody (N-term)**  
**Purified Mouse Monoclonal Antibody (Mab)**  
**Catalog # AW5067**

**Specification**

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**TOP1 Antibody (N-term) - Product Information**

Application	WB, FC,E
Primary Accession	<a href="#">P11387</a>
Reactivity	Human
Predicted	Mouse, Rat
Host	Mouse
Clonality	Monoclonal
Calculated MW	H=91;M=91;Rat=91 KDa
Isotype	IgG1, $\kappa$
Antigen Source	HUMAN

**TOP1 Antibody (N-term) - Additional Information**

**Gene ID** 7150

**Antigen Region**  
1-290

**Other Names**  
DNA topoisomerase 1, DNA topoisomerase I, TOP1

**Dilution**  
WB~~1:1000  
FC~~1:25

**Target/Specificity**  
This TOP1 antibody is generated from a mouse immunized with a recombinant protein from the N-terminal region of human TOP1.

**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.

**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.

**TOP1 Antibody (N-term) - 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

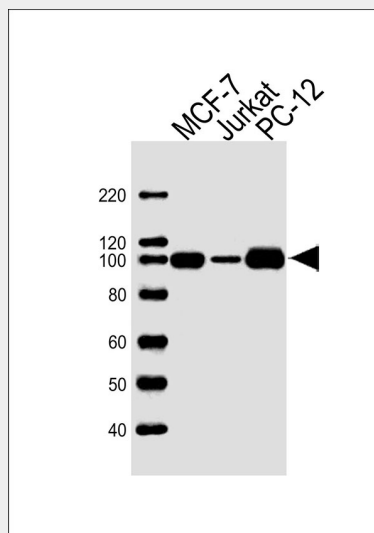
Endothelial cells..

## TOP1 Antibody (N-term) - Protocols

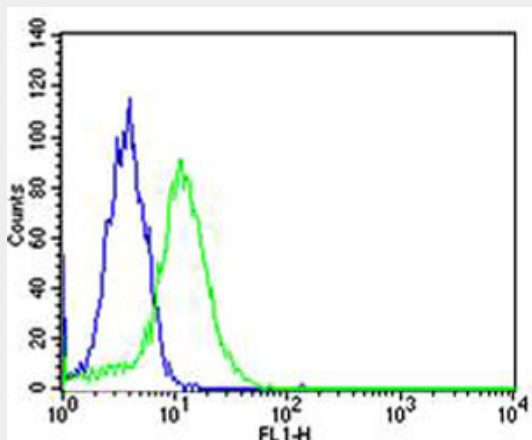
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

## TOP1 Antibody (N-term) - Images



Western blot analysis of lysates from MCF-7, Jurkat, PC-12 cell line (from left to right), using TOP1 Antibody (N-term) (Cat. #AW5067). AW5067 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.



Flow cytometric analysis of HeLa cells using TOP1 Antibody (N-term) (green, Cat#AW5067) compared to an isotype control of mouse IgG1 (blue). AW5067 was diluted at 1:25 dilution. An Alexa Fluor® 488 goat anti-mouse IgG at 1:400 dilution was used as the secondary antibody.

#### **TOP1 Antibody (N-term) - 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.

#### **TOP1 Antibody (N-term) - 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.