ARG55817
anti-Topoisomerase I antibody

Package: 100 µl
Store at: -20°C

Summary

Product Description	Mouse Monoclonal antibody recognizes Topoisomerase I
Tested Reactivity	Hu, Rat
Tested Application	FACS, WB
Host	Mouse
Clonality	Monoclonal
Clone	1291CT875.142.166
Isotype	IgG1, kappa
Target Name	Topoisomerase I
Species	Human
Immunogen	Recombinant protein (N-terminus) of Human Topoisomerase I
Conjugation	Un-conjugated
Alternate Names	DNA topoisomerase 1; DNA topoisomerase I; TOPI; EC 5.99.1.2; Scl-70 Antigen; Topoisomerase (DNA) I

Application Instructions

Application table

Application	Dilution
FACS	1:25
WB	1:1000

Application Note: * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Positive Control: MCF7

Properties

Form	Liquid
Purification	Purification with Protein G.
Buffer	PBS and 0.09% (W/V) Sodium azide
Preservative	0.09% (W/V) Sodium azide
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

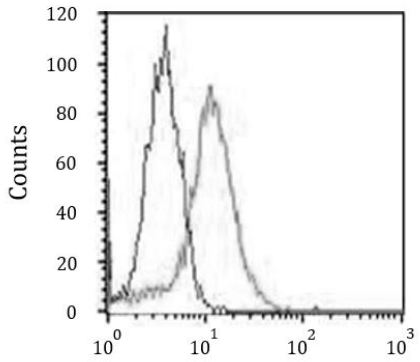
Bioinformation

Database links	GeneID: 64550 Rat GeneID: 7150 Human Swiss-port # P11387 Human Swiss-port # Q9WUL0 Rat
Gene Symbol	TOP1
Gene Full Name	topoisomerase (DNA) I
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. [provided by RefSeq, Jul 2008]
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 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. Involved in the circadian transcription of the core circadian clock component ARNTL/BMAL1 by altering the chromatin structure around the ROR response elements (ROREs) on the ARNTL/BMAL1 promoter. [UniProt]
Calculated Mw	91 kDa
PTM	Sumoylated. Lys-117 is the main site of sumoylation. Sumoylation plays a role in partitioning TOP1 between nucleoli and nucleoplasm. Levels are dramatically increased on camptothecin (CPT) treatment. Phosphorylation at Ser-506 by CK2 increases binding to supercoiled DNA and sensitivity to camptothecin.
Cellular Localization	Nucleus, nucleolus. Nucleus, nucleoplasm. Note=Diffuse nuclear localization with some enrichment in nucleoli. On CPT treatment, cleared from nucleoli into nucleoplasm. Sumolyated forms found in both nucleoplasm and nucleoli

Images

ARG55817 anti-Topoisomerase I antibody WB image

Western blot: 35 µg of MCF7 cell lysate stained with ARG55817 anti-Topoisomerase I antibody at 1:1000 dilution.



ARG55817 anti-Topoisomerase I antibody FACS image

Flow Cytometry: HeLa cells stained with ARG55817 anti-Topoisomerase I antibody (right histogram) at 1:25 dilution or isotype control antibody (left histogram), followed by incubation with Alexa Fluor® 488 labelled secondary antibody.