Topoisomerase 1 monoclonal antibody

Catalog: MB66865 Host: Mouse Reactivity: Human

BackGround:

DNA topoisomerases I and II are nuclear enzymes; type II consists of two highly homologous isoforms: topoisomerase IIα and IIβ. These enzymes regulate the topology of DNA, maintain genomic integrity, and are essential for processes such as DNA replication, recombination, transcription, and chromosome segregation by allowing DNA strands to pass through each other . Topoisomerase I nicks and rejoins one strand of the duplex DNA, while topoisomerase II transiently breaks and closes double-stranded DNA . Topoisomerases are very susceptible to various stresses. Acidic pH or oxidative stress can convert topoisomerases to DNA-breaking nucleases, causing genomic instability and cell death. DNA-damaging topoisomerase targeting drugs (e.g., etoposide) also convert topoisomerases to nucleases, with the enzyme usually trapped as an intermediate that is covalently bound to the 5+ end of the cleaved DNA strand(s). Research studies have shown that this intermediate leads to genomic instability and cell death. Thus, agents that target topoisomerases are highly sought after cancer chemotherapeutic drugs . Ca2+-regulated phosphorylation of topoisomerase IIα at Ser1106 modulates the activity of this enzyme and its sensitivity to targeting drugs .

Product:

Mouse IgG1 kappa. Liquid in PBS, pH 7.3, 30% glycerol, and 0.01% sodium azide.

Molecular Weight:

~ 120 kDa

Swiss-Prot:

P11387

Purification&Purity:

This antibody is purified through a protein G column.

Applications:

WB (1/500 - 1/1000), FC (1/10 - 1/50)

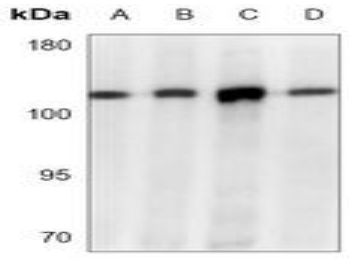
Storage&Stability:

Store at 4℃ short term. Aliquot and store at -20℃ long term. Avoid freeze-thaw cycles.

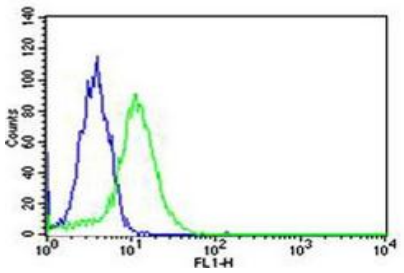
Specificity:

Recognizes endogenous levels of Topoisomerase 1 protein.

DATA:



Western blot analysis of Topoisomerase 1 expression in HUVEC (A), Jurkat (B), MCF7 (C), PC12 (D) whole cell lysates.



Note:

For research use only, not for use in diagnostic procedure.

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