

Product Specification Sheet

Human Topoisomerase I Antibody

Cat # TOP11-M

Mouse Monoclonal Anti-Human Topoisomerase I IgG # 1

SIZE: 100 ug

The topology of the DNA is a crucial issue in different biological processes like recombination, replication, transcription, and chromatin remodeling. DNA topoisomerases are enzymes that control the amount of supercoiling in DNA. Without topoisomerase, DNA cannot replicate normally. The protein family of DNA topoisomerases is divided into two types (type I and II) based on their mechanism and physical properties. While the type I topoisomerases are monomeric and do not require ATP, the type II contain multi-subunits and depend on ATP for their activity. The type I enzymes include eukaryotic and bacterial topoisomerase I and III. The type II enzymes include bacterial DNA gyrase and topoisomerase IV and the eukaryotic topoisomerase II. Type I enzymes introduce transient single strand breaks in DNA, while type II enzymes produce transient double strand breaks in the DNA. Human DNA Topoisomerase I belongs to the subtype IB enzymes. The protein has four distinct domains. The N-terminal 214 amino acids are dispensable for relaxation activity and constitutes a hydrophilic and highly protease sensitive region of the protein. There are four nuclear localization signals in the N-terminal domain. The second domain is a core domain of 421 amino acids that is responsible for the single break in the DNA. Recently it was reported that DNA topoisomerase I is involved in modulation of RNA and is present in retroviral particles (like HIV1). Furthermore, the enzyme enhances HIV-1 cDNA production in reverse transcription assays.

Source of Antigen and Antibodies

Antigen	Purified human Topoisomerase I protein
Epitope	Location unknown
Ab Host/type	Mouse, monoclonal IgG1
Ab Format	Aff pure IgG (Cat # TOP11-M)
2-ab	Goat Anti-mouse IgG-HRP conjugate Cat # 40320 (AP, biotin, FITC conjugates also available)
-ve control IgG	Cat # 20008-1, Mouse (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage

Affinity pure IgG

100 ug/100ul solution lyophilized powder
Buffer: PBS pH 7.4 contains 0.05% sodium azide
Reconstitute powder in PBS at 1mg/ml

Storage

Short-term: unopened, undiluted liquid vials for less than a week at 4oC.

Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20oC or below.

Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting: An initial concn. of 1-5 ug/ml is recommended for Western. Users must optimize antibody dilution depending upon the nature of samples and other technical conditions. Human kidney topoisomerase I is ~ 100 kda.

Histochemistry & Immunofluorescence: Not tested. An initial concn. 2-20 ug/ml is recommended for IHC.

Specificity & Cross-reactivity

TOP11-M recognized human topoisomerase I. No reactivity is seen with topoisomerase II alpha or beta proteins. Antibody cross-reactivity in various other species has not been studied.

General References:

1. Takahasi H et al (2000) Hybridoma 19, 331-334;
Froelich0Ammon SJ et al (1995) JBC 270, 21429-21432; Champoux JJ et al (2001) 70, 369-413;
Takahashi H et al (1995) PNAS 92, 5694-5698

***This product is for In vitro research use only.**

Material Safety Data. Unless specified otherwise, the material contains negligible amounts of sodium azide (0.1%) as preservative. Appropriate care should be exercised when handling and disposing this material.

Related material available from ADI

Antibodies to MGMT, hNTH, Ape, mutY, OGG1, XRCC1, DNA Ligase, Polymerase, XPG, ORC1 etc are available.

Anti-Rabbit IgG-HRP Conjugate and ECL Reagents

Western Blot Recycling Kit (Strips blots in 5 minutes) and re-use the same blot with multiple antibodies

TOP11-M 71206A

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