10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Topoisomerase (DNA) I, Mitochondrial (TOP1MT) Antibody - With BSA and Azide

Mouse Monoclonal Antibody [Clone TOP1MT/488]
Catalog # AH11100

Specification

Topoisomerase (DNA) I, Mitochondrial (TOP1MT) Antibody - With BSA and Azide - Product Information

Application	**IHC, IF, FC**
Primary Accession	Q969P6
Other Accession	116447, 528574
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**Mouse / IgG2b, kappa**
Calculated MW	**70kDa KDa**

Topoisomerase (DNA) I, Mitochondrial (TOP1MT) Antibody - With BSA and Azide - Additional Information

Gene ID 116447

Other Names
DNA topoisomerase I, mitochondrial, TOP1mt, 5.99.1.2, TOP1MT

Application Note
IHC~~1:100~500<br \>IF~~1:50~200<br \>FC~~1:10~50

Storage
Store at 2 to 8°C.Antibody is stable for 24 months.

Precautions
Topoisomerase (DNA) I, Mitochondrial (TOP1MT) Antibody - With BSA and Azide is for research use only and not for use in diagnostic or therapeutic procedures.

Topoisomerase (DNA) I, Mitochondrial (TOP1MT) Antibody - With BSA and Azide - Protein Information

Name TOP1MT

Function
Releases the supercoiling and torsional tension of DNA introduced during duplication of mitochondrial DNA 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).

Cellular Location
Mitochondrion.

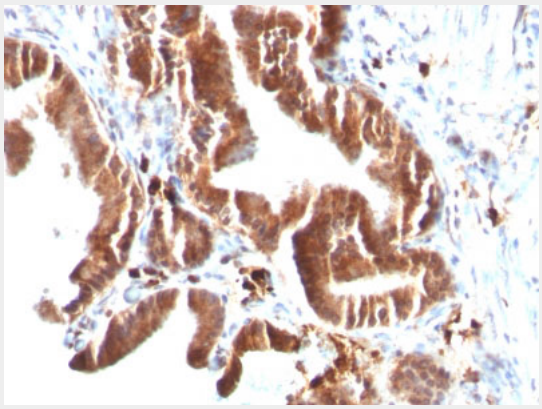
Tissue Location
Ubiquitous; highest in skeletal muscle, heart, brain and fetal liver.

Topoisomerase (DNA) I, Mitochondrial (TOP1MT) Antibody - With BSA and Azide - Protocols

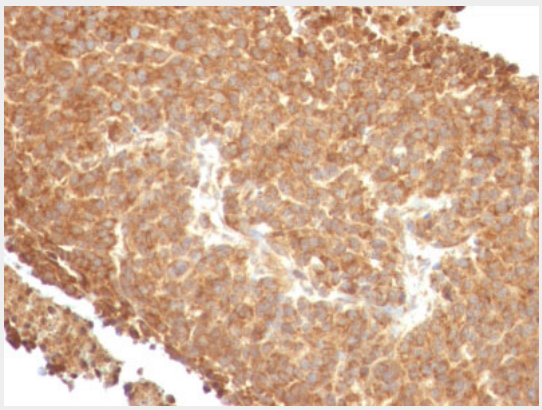
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Topoisomerase (DNA) I, Mitochondrial (TOP1MT) Antibody - With BSA and Azide - Images



Formalin-fixed, paraffin-embedded human Gallbladder stained with Topo I, MT Monoclonal Antibody (TOP1MT/488).



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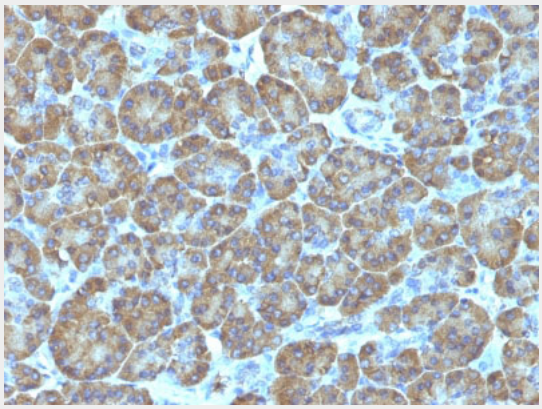
Formalin-fixed, paraffin-embedded human Melanoma stained with Topo I, MT Monoclonal Antibody (TOP1MT/488).



Formalin-fixed, paraffin-embedded human Pancreas stained with Topo I, MT Monoclonal Antibody (TOP1MT/488).

Topoisomerase (DNA) I, Mitochondrial (TOP1MT) Antibody - With BSA and Azide - Background

DNA topoisomerases are nuclear enzymes that regulate the topological structure of DNA in eukaryotic cells by transiently breaking and rejoining DNA strands. Due to their roles in DNA replication, recombination, and transcription, DNA topoisomerases have been identified as targets of numerous anticancer drugs. Mitochondrial Topo I (DNA topoisomerase I, mitochondrial) is a 601 amino acid protein that primarily acts to relieve DNA strain that may occur during duplication of mitochondrial DNA. As a type IB topoisomerase, mitochondrial Topo I requires a divalent metal, either, calcium or magnesium, as well as an alkaline pH for optimal activity.

Topoisomerase (DNA) I, Mitochondrial (TOP1MT) Antibody - With BSA and Azide - References

Zhang, H., Barcel&#xFFFD;, J.M., Lee, B., Kohlhagen, G., Zimonjic, D.B., Popescu, N.C. and Pommier, Y. 2001. Human mitochondrial topoisomerase I. Proc. Natl. Acad. Sci. USA 98: 10608-10613. | Zhang, H., Meng, L.H. and Pommier, Y. 2007. Mitochondrial topoisomerases and alternative splicing of the human TOP1mt gene. Biochimie 89: 474-481