

# Mitochondrial Topo I (E-13): sc-98014

## 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. Although it is expressed ubiquitously, it is logically present at highest levels in tissues that require dense concentrations of mitochondria (ie: heart, skeletal muscle, brain and fetal liver). 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.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: TOP1MT (human) mapping to 8q24.3.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## SOURCE

Mitochondrial Topo I (E-13) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of Mitochondrial Topo I of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-98014 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Mitochondrial Topo I (E-13) is recommended for detection of Mitochondrial Topo I of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Mitochondrial Topo I (E-13) is also recommended for detection of Mitochondrial Topo I in additional species, including porcine.

Suitable for use as control antibody for Mitochondrial Topo I siRNA (h): sc-77835, Mitochondrial Topo I shRNA Plasmid (h): sc-77835-SH and Mitochondrial Topo I shRNA (h) Lentiviral Particles: sc-77835-V.

Molecular Weight of Mitochondrial Topo I: 70 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.