

Anti-Topoisomerase I antibody ab85038

★★★★★ [4 Abreviews](#) [7 References](#) [4 Images](#)

Overview

Product name	Anti-Topoisomerase I antibody
Description	Rabbit polyclonal to Topoisomerase I
Host species	Rabbit
Tested applications	Suitable for: ICC/IF, WB, IP
Species reactivity	Reacts with: Mouse, Rat, Human Predicted to work with: Chicken, Hamster, Cow, Monkey 
Immunogen	Synthetic peptide corresponding to Human Topoisomerase I aa 1-100 (N terminal) conjugated to keyhole limpet haemocyanin. (Peptide available as ab94391)
General notes	<p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.40 Preservative: 0.02% Sodium azide Constituent: PBS Batches of this product that have a concentration < 1mg/ml may have BSA added as a stabilising agent. If you would like information about the formulation of a specific lot, please contact our scientific support team who will be happy to help.
Purity	Immunogen affinity purified
Clonality	Polyclonal

Isotype

IgG

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab85038 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC/IF	★★★★☆ (1)	Use a concentration of 1 µg/ml.
WB	★★★★★ (1)	Use a concentration of 1 µg/ml. Detects a band of approximately 90 kDa (predicted molecular weight: 90 kDa).
IP	★★★★★ (1)	Use a concentration of 5 µg/ml.

Target

Function

The reaction catalyzed by topoisomerases leads to the conversion of one topological isomer of DNA to another.

Involvement in disease

Note=A chromosomal aberration involving TOP1 is found in a form of therapy-related myelodysplastic syndrome. Translocation t(11;20)(p15;q11) with NUP98.

Sequence similarities

Belongs to the eukaryotic type I topoisomerase family.

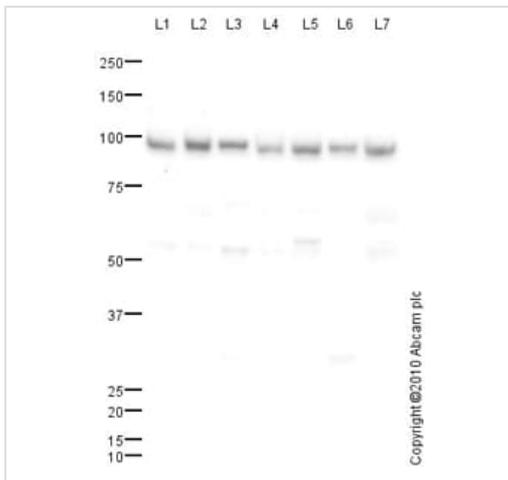
Post-translational modifications

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.

Cellular localization

Nucleus > nucleolus. Nucleus > nucleoplasm. 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



Western blot - Anti-Topoisomerase I antibody (ab85038)

All lanes : Anti-Topoisomerase I antibody (ab85038) at 1 µg/ml

Lane 1 : HeLa (Human epithelial carcinoma cell line) Whole Cell Lysate

Lane 2 : Jurkat (Human T cell lymphoblast-like cell line) Whole Cell Lysate

Lane 3 : HepG2 (Human hepatocellular liver carcinoma cell line) Whole Cell Lysate

Lane 4 : HEK293 (Human embryonic kidney cell line) Whole Cell Lysate

Lane 5 : MCF7 (Human breast adenocarcinoma cell line) Whole Cell Lysate

Lane 6 : Caco 2 (Human colonic carcinoma cell line) Whole Cell Lysate

Lane 7 : SHSY-5Y (Human neuroblastoma cell line) Whole Cell Lysate

Lysates/proteins at 10 µg per lane.

Secondary

All lanes : Goat polyclonal to Rabbit IgG - H&L - Pre-Adsorbed (HRP) at 1/3000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 90 kDa

Observed band size: 90 kDa

Exposure time: 30 seconds

Human DNA topoisomerase 1 contains a potential sumoylation site (SwissProt) which may explain its migration at a higher molecular weight than predicted.



Western blot - Anti-Topoisomerase I antibody (ab85038)

All lanes : Anti-Topoisomerase I antibody (ab85038) at 1 µg/ml

Lane 1 : NIH 3T3 (Mouse embryonic fibroblast cell line) Whole Cell Lysate

Lane 2 : PC12 (Rat adrenal pheochromocytoma cell line) Whole Cell Lysate

Lysates/proteins at 10 µg per lane.

Secondary

All lanes : Goat Anti-Rabbit IgG H&L (HRP) preadsorbed (**ab97080**) at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 90 kDa

Observed band size: 100 kDa

Additional bands at: 50 kDa, 55 kDa, 70 kDa. We are unsure as to the identity of these extra bands.

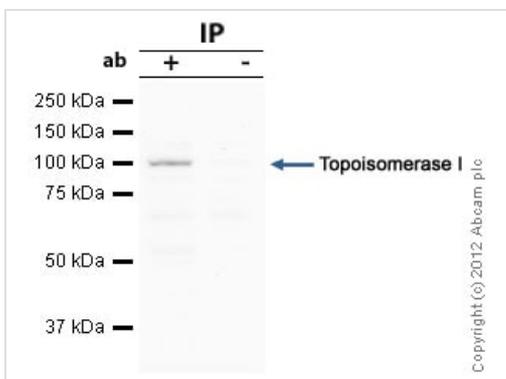
Exposure time: 3 minutes

Topoisomerase I was immunoprecipitated using 0.5mg Hek293 whole cell extract, 5µg of Rabbit polyclonal to Topoisomerase I and 50µl of protein G magnetic beads (+). No antibody was added to the control (-).

The antibody was incubated under agitation with Protein G beads for 10min, Hek293 whole cell extract lysate diluted in RIPA buffer was added to each sample and incubated for a further 10min under agitation.

Proteins were eluted by addition of 40µl SDS loading buffer and incubated for 10min at 70°C; 10µl of each sample was separated on a SDS PAGE gel, transferred to a nitrocellulose membrane, blocked with 5% BSA and probed with ab85038.

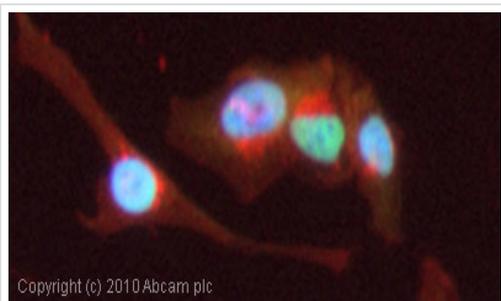
Secondary: Mouse monoclonal [SB62a] Secondary Antibody to



Immunoprecipitation - Anti-Topoisomerase I antibody (ab85038)

Rabbit IgG light chain (HRP) ([ab99697](#)).

Band: 90kDa; Topoisomerase I



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Immunocytochemistry/ Immunofluorescence - Anti-
Topoisomerase I antibody (ab85038)

ICC/IF image of ab85038 stained HeLa cells. The cells were 4% PFA fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab85038, 1µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-rabbit IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM. This antibody also gave a positive result in 4% PFA fixed (10 min) Hek293, HepG2 and MCF7 cells at 1µg/ml, and in 100% methnaol fixed (5 min) HeLa cells at 1µg/ml.

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