
Product Name: KD-Validated Topoisomerase II alpha Recombinant Rabbit Monoclonal Antibody**Catalog #: KVA00896**

For research use only.

Summary

Description	KO&KD-Validated antibody
Host	Rabbit
Application	WB,FCM,ICC,IHC-P
Reactivity	Human,Mouse,Rat
Conjugation	Unconjugated
Modification	Unmodified
Isotype	Rabbit IgG
Clonality	Rabbit mAb
Form	Liquid
Storage	Aliquot and store at -20°C (valid for 12 months). Avoid freeze/thaw cycles.
Shipping	Ice bags
Buffer	Supplied in PBS (pH 7.4) containing 50% glycerol, and 0.02% sodium azide.
Purification	Affinity purification

Application

Dilution Ratio	WB 1:1,000-1:5,000; FC 1:200-1:2,000; ICC 1:100-1:1,000; IHC-P 1:100-1:200
Molecular Weight	Calculated MW: 174.4kDa

Antigen Information

Gene Name	TOP2A
Alternative Names	TOP2A; DNA Topoisomerase II Alpha 2; TOP2alpha; TOPIIA; TOP2; Topoisomerase (DNA) II Alpha 170kDa; DNA Topoisomerase II, Alpha Isozyme; DNA Topoisomerase 2-Alpha; DNA Topoisomerase (ATP-Hydrolyzing); DNA Topoisomerase II, 170 KD; EC 5.99.1.3; DNA Gyrase; EC 5.6.2.2; TP2A
Gene ID	7153.0
SwissProt ID	P11388
Immunogen	A synthesized peptide derived from human Topoisomerase II alpha

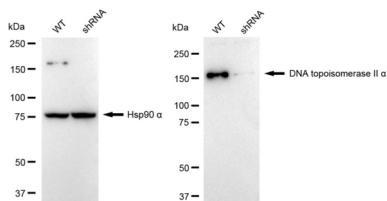
Background

This gene encodes a DNA topoisomerase, an enzyme that controls and alters the topologic states of DNA during transcription. This nuclear enzyme is involved in processes such as chromosome condensation, chromatid separation, and the relief of torsional stress that occurs during DNA transcription and replication. It catalyzes the transient breaking and rejoining of two strands of duplex DNA which allows the strands to pass through one another, thus altering the topology of DNA. Two forms of this enzyme exist as likely products of a gene duplication event. The gene encoding this form, alpha, is localized to chromosome 17 and the beta gene is localized to chromosome 3. The gene encoding this enzyme functions as the target for several anticancer agents and a variety of mutations in this gene have been associated with the development of drug resistance. Reduced activity of this enzyme may also play a role in ataxia-telangiectasia. [provided by RefSeq, Jul 2010]

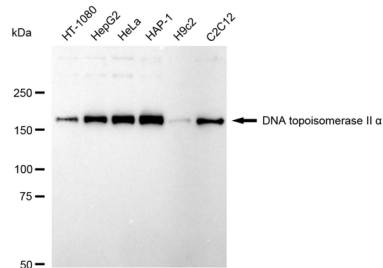
Research Area

Epigenetics and Nuclear Signaling,Cancer

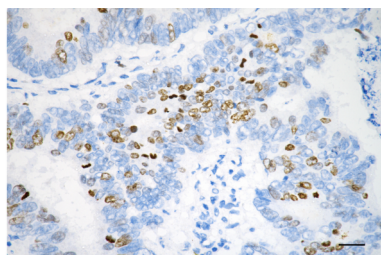
Image Data



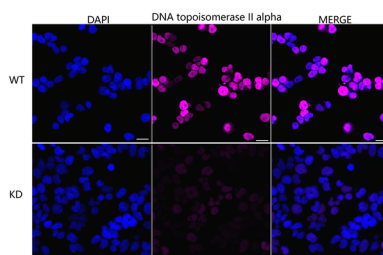
Western blotting analysis using DNA topoisomerase II alpha antibody (KVA00896). DNA topoisomerase II alpha expression in wild type (WT) and DNA topoisomerase II alpha shRNA knockdown (KD) HeLa cells with 20 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with DNA topoisomerase II alpha antibody (KVA00896, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody (APS0635, 1:10,000) respectively.



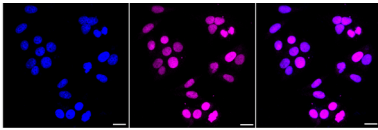
Western blotting analysis using DNA topoisomerase II alpha antibody (KVA00896). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with DNA topoisomerase II alpha antibody (KVA00896, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody (APS0635, 1:10,000) respectively.



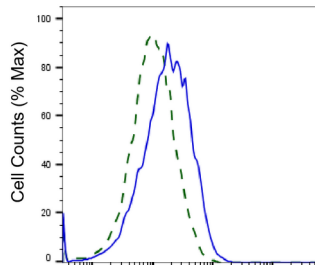
Immunohistochemistry was performed on paraffin-embedded human sigmoid colon carcinoma using DNA topoisomerase II alpha antibody (KVA00896, 1:200). Antigen retrieval was done in sodium citrate buffer (pH 6.0). DAB was used for detection, with hematoxylin counterstaining. Images were acquired using a Nikon Ci-L Plus microscope (40× objective). Scale bar: 25 µm.



Immunocytochemical staining of HeLa cells using DNA topoisomerase II alpha antibody (KVA00896, 1:1,000). Top panel: wild-type (WT); Bottom panel: DNA topoisomerase II alpha shRNA knockdown (KD). Nuclei were stained blue with DAPI; DNA topoisomerase II alpha was stained magenta with Alexa Fluor® 647. Scale bar, 20 µm. Permeabilization: Triton.

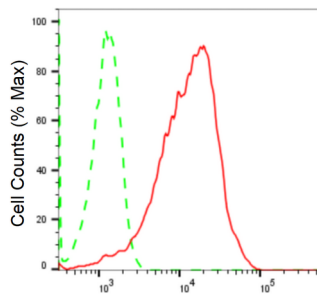


Immunocytochemical staining of HepG2 cells with DNA topoisomerase II alpha antibody (KVA00896, 1:1,000). Nuclei were stained blue with DAPI; DNA topoisomerase II alpha was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: 20 μ m.



DNA topoisomerase II alpha-Alexa Fluor® 647

Validation of DNA topoisomerase II alpha knockdown using flow cytometry. Wild-type(WT, Blue) and knockdown(KD, Green) HeLa cells were stained with DNA topoisomerase II alpha antibody (KVA00896, 1:2,000) and analyzed using BD flow cytometer.



DNA topoisomerase II alpha-Alexa Fluor® 647

Flow cytometric analysis of DNA topoisomerase II alpha expression in HepG2 cells using DNA topoisomerase II alpha antibody (KVA00896, 1:2,000). Green, isotype control; red, DNA topoisomerase II alpha.