

PRODUCT INFORMATION



DNA Topoisomerase II α (C-Term) Rabbit Monoclonal Antibody (RM394) Item No. 32321

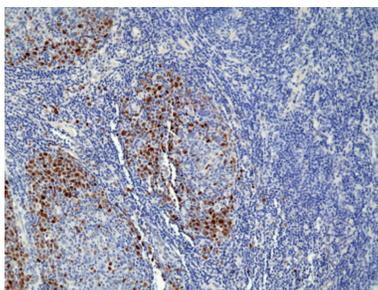
Overview and Properties

Contents:	This vial contains 100 μ l of protein A-affinity purified monoclonal antibody.
Synonyms:	DNA Topoisomerase 2 α , TOP2A
Immunogen:	Peptide from the C-terminal region of human DNA topoisomerase II α
Cross Reactivity:	(+) DNA topoisomerase II α
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	\geq 1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Clone:	RM394
Host:	Rabbit
Isotype:	IgG
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:100-1:200 for IHC and 1:1,000-1:2,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



WB of HeLa cell lysate using DNA Topoisomerase II α (C-Term) Rabbit Monoclonal Antibody (RM394) at a dilution of 1:2,000.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human tonsil tissue using DNA Topoisomerase II α (C-Term) Rabbit Monoclonal Antibody (RM394) at a dilution of 1:100.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

DNA topoisomerase II α is a type II topoisomerase encoded by *TOP2A*.¹ It is composed of an N-terminal ATPase domain, a central core domain containing a topoisomerase-primase (toprim) catalytic domain, winged helix domain, and a DNA-binding core, and a C-terminal domain subject to post-translational modifications. DNA topoisomerase II α is expressed at the highest levels during the G₂/M phase of the cell cycle.^{2,3} DNA topoisomerase II α is involved in chromosome segregation and DNA replication, where it forms homodimers that induce DNA double-strand breaks in a DNA duplex, passes another DNA duplex through the cleavage, and then ligates the break.¹ This process reduces DNA supercoiling and relieves torsional stress on the DNA. Due to the selective expression of DNA topoisomerase II α during the proliferative phase of the cell cycle, it is a target for cancer therapeutics.⁴ Cayman's DNA Topoisomerase II α (C-Term) Rabbit Monoclonal Antibody (RM394) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

References

1. Gilroy, K.L. and Austin, C.A. The impact of the C-terminal domain on the interaction of human DNA topoisomerase II α and β with DNA. *PLoS One* **6(2)**, e14693 (2011).
2. Chen, W., Qiu, J., and Shen, Y. Topoisomerase II α , rather than II β , is a promising target in development of anti-cancer drugs. *Drug Discov. Ther.* **6(5)**, 230-237 (2012).
3. Lee, C.-G., Hague, L.K., Li, H., *et al.* Identification of toposome, a novel multisubunit complex containing topoisomerase II α . *Cell Cycle* **3(5)**, 638-647 (2004).
4. Skok, Ž., Durcik, M., Skledar, D.G., *et al.* Discovery of new ATP-competitive inhibitors of human DNA topoisomerase II α through screening of bacterial topoisomerase inhibitors. *Bioorg. Chem.* **102**, 104049 (2020).

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