

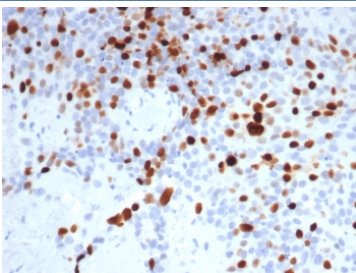
Topoisomerase II alpha Antibody / Genome Stability Enzyme Antibody [clone TOP2A/8103R] (V4495)

Catalog No.	Formulation	Size
V4495-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4495-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4495SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

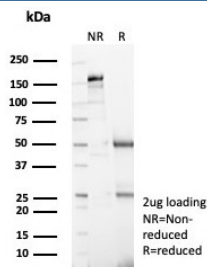
Recombinant **RABBIT MONOCLONAL**

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Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	TOP2A/8103R
Purity	Protein A/G affinity
UniProt	P11388
Localization	Nucleus
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml for 30 minutes at RT
Limitations	This Topoisomerase II alpha antibody is available for research use only.



Topoisomerase II alpha Antibody / Genome Stability Enzyme Antibody (clone TOP2A/8103R). Immunohistochemistry analysis of FFPE human lymph node tissue demonstrates strong nuclear staining of DNA Topoisomerase II alpha in proliferating lymphoid cells. Nuclear immunoreactivity is enriched within germinal center lymphocytes, reflecting elevated expression of this genome stability enzyme in rapidly dividing immune cells where maintenance of genomic integrity is essential. As a Genome Stability Enzyme Antibody, clone TOP2A/8103R highlights cells in which DNA Topoisomerase II alpha helps preserve genome stability by resolving DNA supercoiling and preventing chromosomal instability during cell division. HIER: boil tissue sections in pH 9 Tris-EDTA buffer for 20 min followed by cooling at RT prior to immunohistochemistry staining.



SDS-PAGE analysis of purified, BSA-free Topoisomerase II alpha Antibody / Genome Stability Enzyme Antibody (clone TOP2A/8103R) as confirmation of integrity and purity.

Description

DNA Topoisomerase II alpha (TOP2A) is a nuclear enzyme that plays a critical role in preserving genome stability during DNA replication and chromosome organization. The protein belongs to the type II topoisomerase family and functions by introducing transient double strand DNA breaks that allow one DNA helix to pass through another. This ATP dependent strand passage mechanism relieves torsional stress and prevents the accumulation of harmful DNA topological structures that can compromise genomic integrity.

Topoisomerase II alpha Antibody / Genome Stability Enzyme Antibody (clone TOP2A/8103R) recognizes the TOP2A protein, a nuclear enzyme widely recognized for its contribution to genome stability in proliferating cells. TOP2A antibody, also known as DNA Topoisomerase II alpha antibody or TOP2A antibody, detects an enzyme that resolves DNA supercoiling, DNA catenation, and structural DNA entanglements that arise during DNA replication and chromatin remodeling. By resolving these DNA structures, DNA Topoisomerase II alpha helps maintain proper chromosome architecture and prevents genomic instability.

As a Genome Stability Enzyme Antibody, clone TOP2A/8103R supports research focused on mechanisms that preserve genomic integrity during cell division. Cells undergoing DNA replication generate substantial topological stress that can lead to DNA strand breaks or chromosome abnormalities if not properly resolved. DNA Topoisomerase II alpha protects genome stability by removing DNA supercoils and resolving DNA entanglements that accumulate as chromosomes replicate and condense.

The designation Genome Stability Enzyme Antibody differentiates this antibody page from other Topoisomerase II alpha antibody pages that emphasize alternative biological roles of the protein. While some TOP2A antibodies highlight the enzyme as a DNA replication enzyme, chromosome segregation enzyme, mitotic chromosome enzyme, or DNA topology enzyme, this page specifically emphasizes the role of DNA Topoisomerase II alpha in protecting genome stability and preventing genomic instability. Structuring antibody pages around distinct biological roles such as genome stability is a powerful differentiation strategy used by antibody vendors to ensure that multiple antibodies targeting the same protein are interpreted by search engines as distinct research reagents rather than duplicate content.

Genome stability is essential for preventing the accumulation of DNA damage and maintaining accurate chromosome structure during cell division. DNA Topoisomerase II alpha contributes to genome stability by resolving DNA entanglements and relieving torsional stress that accumulates during DNA metabolic activity. Antibodies recognizing this genome stability enzyme therefore support research investigating genomic integrity, chromosomal stability, and molecular pathways that protect the genome during cellular proliferation.

Application Notes

Optimal dilution of the Topoisomerase II alpha Antibody / Genome Stability Enzyme Antibody should be determined by the researcher.

Immunogen

A recombinant partial protein sequence (within amino acids 1431-1531) from the human protein was used as the immunogen for the Topoisomerase II alpha Antibody / Genome Stability Enzyme Antibody.

Storage

Aliquot the Topoisomerase II alpha antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

TOP2A antibody, DNA Topoisomerase II alpha antibody, Topoisomerase IIa antibody, Topo II alpha antibody, Genome maintenance enzyme antibody