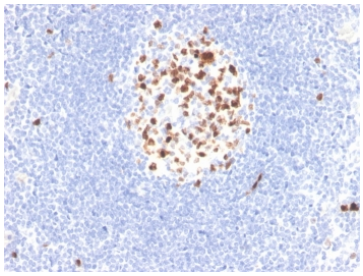
Topoisomerase II alpha Antibody / Cell Cycle Regulator Antibody [clone rTOP2A/6629] (V8971)

Catalog No.	Formulation	Size
V8971-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V8971-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V8971SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

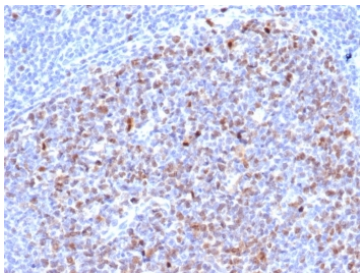
Recombinant | MOUSE MONOCLONAL

Bulk quote request

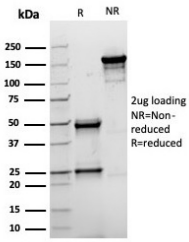
Availability	1-3 business days
Species Reactivity	Human, Mouse
Format	Purified
Host	Mouse
Clonality	Recombinant Mouse Monoclonal
Isotype	Mouse IgG1, kappa
Clone Name	rTOP2A/6629
Purity	Protein A/G affinity
UniProt	P11388
Localization	Nuclear
Applications	Immunohistochemistry (FFPE) : 0.5-1ug/ml
Limitations	This recombinant Topoisomerase II alpha antibody is available for research use only.



Topoisomerase II alpha Antibody / Cell Cycle Regulator Antibody (clone rTOP2A/6629). Immunohistochemistry analysis of FFPE human lymph node demonstrates strong nuclear staining of DNA Topoisomerase II alpha in proliferating lymphoid cells. Nuclear immunoreactivity is concentrated within germinal center lymphocytes, reflecting the elevated expression of this cell cycle regulator in rapidly dividing immune cells. As a Cell Cycle Regulator Antibody, clone rTOP2A/6629 highlights cells undergoing active cell cycle progression, particularly those approaching the G2/M phase transition when Topoisomerase II alpha activity is required for chromosome organization prior to mitosis. HIER: boil tissue sections in pH 9 Tris-EDTA buffer for 20 min followed by cooling at RT before immunohistochemistry staining.



Topoisomerase II alpha Antibody / Cell Cycle Regulator Antibody (clone rTOP2A/6629). Immunohistochemistry analysis of FFPE human tonsil tissue shows strong nuclear staining of DNA Topoisomerase II alpha in proliferating lymphoid cells. Nuclear immunoreactivity is most prominent within germinal center lymphocytes, consistent with elevated expression of this cell cycle regulator in actively dividing immune cells. As a Cell Cycle Regulator Antibody, clone rTOP2A/6629 highlights lymphocyte populations undergoing active cell cycle progression where TOP2A activity supports chromosome organization and mitotic preparation. 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 recombinant Topoisomerase II alpha antibody (clone rTOP2A/6629) as confirmation of integrity and purity.

Description

DNA Topoisomerase II alpha (TOP2A) is a nuclear enzyme that plays a central role in regulating DNA topology during cell cycle progression. The protein belongs to the type II topoisomerase family and functions by introducing transient double strand DNA breaks that allow passage of another DNA helix, relieving torsional stress generated during DNA replication and chromosome condensation. Because these processes are tightly coordinated with cell division, TOP2A is widely recognized as an important regulator of the cell cycle in proliferating cells.

Topoisomerase II alpha Antibody / Cell Cycle Regulator Antibody (clone rTOP2A/6629) recognizes the TOP2A protein, a nuclear enzyme whose expression is strongly regulated during specific stages of the cell cycle. TOP2A antibody, also referred to as DNA Topoisomerase II alpha antibody or TOP2A antibody, detects a protein whose levels increase dramatically as cells progress through S phase and reach peak abundance during the G2/M transition. This tightly controlled expression pattern reflects the enzyme's essential role in preparing chromosomes for mitotic division.

As a Cell Cycle Regulator Antibody, clone rTOP2A/6629 supports research focused on molecular mechanisms controlling cell cycle progression. During late S phase and G2 phase, Topoisomerase II alpha helps resolve DNA supercoiling and structural constraints that accumulate as chromosomes replicate. This activity is essential for proper chromosome condensation and successful progression into mitosis. Cells preparing to divide therefore show increased nuclear levels of this cell cycle regulatory enzyme.

The designation Cell Cycle Regulator 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, or DNA topology regulator, this page specifically emphasizes the role of DNA Topoisomerase II alpha in controlling cell cycle transitions and mitotic entry. Structuring antibody pages around distinct biological roles such as cell cycle regulation is a powerful strategy antibody vendors use to ensure multiple antibodies targeting the same protein are interpreted by search engines as separate research reagents rather than duplicate pages.

TOP2A expression is strongly associated with cells undergoing active cell cycle progression, particularly during the G2/M transition when chromosomes must be properly organized before mitosis. Because of this cell cycle regulated expression pattern, antibodies recognizing this enzyme provide valuable tools for studying mitotic entry, cell cycle control, and regulatory mechanisms governing cellular proliferation. The Topoisomerase II alpha Antibody / Cell Cycle Regulator Antibody clone rTOP2A/6629 enables researchers to examine the nuclear enzyme that helps coordinate DNA topology with cell cycle progression.

Application Notes

Optimal dilution of the Topoisomerase II alpha Antibody / Cell Cycle Regulator Antibody should be determined by the researcher.

Immunogen

A portion of amino acids 1352-1493 was used as the immunogen for the Topoisomerase II alpha Antibody / Cell Cycle Regulator Antibody.

Storage

Aliquot the recombinant 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, Mitotic cell cycle enzyme antibody

Copyright © NSJ Bioreagents. All rights reserved.