10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Topoisomerase III Rabbit pAb

Catalog # AP97321

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q13472
Other Accession	Q13472
Reactivity	Rat
Predicted	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	112372
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Topoisomerase III
Epitope Specificity	271-370/1001
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the prokaryotic type I/III topoisomerase family. Contains 1 Toprim domain.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a DNA topoisomerase, an enzyme that controls and alters the topologic states of DNA during transcription. This enzyme catalyzes the transient breaking and rejoining of a single strand of DNA which allows the strands to pass through one another, thus reducing the number of supercoils and altering the topology of DNA. This enzyme forms a complex with BLM which functions in the regulation of recombination in somatic cells. [provided by RefSeq, Jul 2008]

Additional Information

Gene ID	7156
Other Names	MGRISCE2; PEOB5; TOP3; ZGRF7; TOP3A_HUMAN; TOP3A; DNA topoisomerase III alpha; 5.6.2.1; topoisomerase (DNA) III alpha; zinc finger, GRF-type containing 7
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	TOP3A
Synonyms	TOP3
Function	Releases the supercoiling and torsional tension of DNA introduced during the DNA replication and transcription by transiently cleaving and rejoining one strand of the DNA duplex. Introduces a single-strand break via transesterification at a target site in duplex DNA. The scissile phosphodiester is attacked by the catalytic tyrosine of the enzyme, resulting in the formation of a DNA-(5'-phosphotyrosyl)- enzyme intermediate and the expulsion of a 3'-OH DNA strand. The free DNA strand then undergoes passage around the unbroken strand thus removing DNA supercoils. Finally, in the religation step, the DNA 3'-OH attacks the covalent intermediate to expel the active-site tyrosine and restore the DNA phosphodiester backbone. As an essential component of the RMI complex it is involved in chromosome separation and the processing of homologous recombination intermediates to limit DNA crossover formation in cells. Has DNA decatenation activity (PubMed:30057030). It is required for mtDNA decatenation and segregation after completion of replication, in a process that does not require BLM, RMI1 and RMI2 (PubMed:29290614).
Cellular Location	Mitochondrion matrix
Tissue Location	High expression is found in testis, heart, skeletal muscle and pancreas

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.