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

DNA2 Rabbit pAb

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Catalog # AP55536

Product Information

Application	IHC-P, IHC-F, IF, E
Primary Accession	P51530
Predicted	Human, Mouse, Rat, Pig, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	120415
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human DNA2
Epitope Specificity	251-350/1060
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 DNA2/NAM7 helicase family.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	DNA2 is a conserved helicase/nuclease involved in the maintenance of mitochondrial and nuclear DNA stability (Duxin et al., 2009 [PubMed 19487465]).[supplied by OMIM, Nov 2010]

Additional Information

Gene ID	1763
Other Names	DNA replication ATP-dependent helicase/nuclease DNA2, hDNA2, DNA replication ATP-dependent helicase-like homolog, DNA replication nuclease DNA2, 3.1.-.-, DNA replication ATP-dependent helicase DNA2, 3.6.4.12, DNA2, DNA2L, KIAA0083
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000
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	DNA2

Synonyms	DNA2L, KIAA0083
Function	Key enzyme involved in DNA replication and DNA repair in nucleus and mitochondrion. Involved in Okazaki fragments processing by cleaving long flaps that escape FEN1: flaps that are longer than 27 nucleotides are coated by replication protein A complex (RPA), leading to recruit DNA2 which cleaves the flap until it is too short to bind RPA and becomes a substrate for FEN1. Also involved in 5'-end resection of DNA during double-strand break (DSB) repair: recruited by BLM and mediates the cleavage of 5'-ssDNA, while the 3'-ssDNA cleavage is prevented by the presence of RPA. Also involved in DNA replication checkpoint independently of Okazaki fragments processing. Possesses different enzymatic activities, such as single-stranded DNA (ssDNA)-dependent ATPase, 5'-3' helicase and endonuclease activities. While the ATPase and endonuclease activities are well-defined and play a key role in Okazaki fragments processing and DSB repair, the 5'-3' DNA helicase activity is subject to debate. According to various reports, the helicase activity is weak and its function remains largely unclear. Helicase activity may promote the motion of DNA2 on the flap, helping the nuclease function.
Cellular Location	Nucleus. Mitochondrion. Note=Was initially reported to be exclusively mitochondrial (PubMed:18995831). However, it was later shown to localize both in mitochondrion and nucleus (PubMed:19487465).

Background

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