

**DNA2 Antibody (Center) Blocking peptide**  
**Synthetic peptide**  
**Catalog # BP10182c****Specification**

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**DNA2 Antibody (Center) Blocking peptide - Product Information**

Primary Accession [P51530](#)  
Other Accession [NP\\_001073918.1](#)

**DNA2 Antibody (Center) Blocking peptide - 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, 31--, DNA replication ATP-dependent helicase DNA2, DNA2, DNA2L, KIAA0083

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**DNA2 Antibody (Center) Blocking peptide - 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).

**DNA2 Antibody (Center) Blocking peptide - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

**DNA2 Antibody (Center) Blocking peptide - Images****DNA2 Antibody (Center) Blocking peptide - Background**

DNA2 is a conserved helicase/nuclease involved in the maintenance of mitochondrial and nuclear DNA stability (Duxin et al., 2009 [PubMed 19487465]).

**DNA2 Antibody (Center) Blocking peptide - References**

Rose, J.E., et al. Mol. Med. 16 (7-8), 247-253 (2010) ;Kang, Y.H., et al. Crit. Rev. Biochem. Mol. Biol. 45(2):71-96(2010)Balakrishnan, L., et al. J. Biol. Chem. 285(7):4398-4404(2010)Duxin, J.P., et al. Mol. Cell. Biol. 29(15):4274-4282(2009)Zheng, L., et al. Mol. Cell 32(3):325-336(2008)