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DCLRE1B Blocking Peptide (Center)

Synthetic peptide
Catalog # BP5426c

Specification

DCLRE1B Blocking Peptide (Center) - Product Information

Primary Accession	Q9H816
Other Accession	NP_073747.1

DCLRE1B Blocking Peptide (Center) - Additional Information

Gene ID 64858

Other Names
5' exonuclease Apollo, 31--, DNA cross-link repair 1B protein, SNM1 homolog B, SNMIB, hSNM1B, DCLRE1B, SNM1B

Target/Specificity
The synthetic peptide sequence is selected from aa 223-236 of HUMAN DCLRE1B

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.

DCLRE1B Blocking Peptide (Center) - Protein Information

Name DCLRE1B

Synonyms SNM1B

Function
5'-3' exonuclease that plays a central role in telomere maintenance and protection during S-phase. Participates in the protection of telomeres against non-homologous end-joining (NHEJ)- mediated repair, thereby ensuring that telomeres do not fuse. Plays a key role in telomeric loop (T loop) formation by being recruited by TERF2 at the leading end telomeres and by processing leading-end telomeres immediately after their replication via its exonuclease activity: generates 3' single-stranded overhang at the leading end telomeres avoiding blunt leading-end telomeres that are vulnerable to end-joining reactions and expose the telomere end in a manner that activates the DNA repair pathways. Together with TERF2, required to protect telomeres from replicative damage during replication by controlling the amount of DNA topoisomerase (TOP1, TOP2A and TOP2B) needed for telomere replication during fork passage and prevent aberrant telomere topology. Also involved in response to DNA damage: plays a role in response to DNA interstrand

cross-links (ICLs) by facilitating double-strand break formation. In case of spindle stress, involved in prophase checkpoint. Possesses beta-lactamase activity, catalyzing the hydrolysis of penicillin G and nitrocefin (PubMed:31434986). Exhibits no activity towards other beta-lactam antibiotic classes including cephalosporins (cefotaxime) and carbapenems (imipenem) (PubMed:31434986).

Cellular Location
Chromosome, telomere. Nucleus. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Note=Mainly localizes to telomeres, recruited via its interaction with TERF2 During mitosis, localizes to the centrosome

DCLRE1B Blocking Peptide (Center) - Protocols

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

- Blocking Peptides

DCLRE1B Blocking Peptide (Center) - Images

DCLRE1B Blocking Peptide (Center) - Background

DNA interstrand cross-links prevent strand separation, thereby physically blocking transcription, replication, and segregation of DNA. DCLRE1B is one of several evolutionarily conserved genes involved in repair of interstrand cross-links (Dronkert et al., 2000 [PubMed 10848582]).

DCLRE1B Blocking Peptide (Center) - References

Anders, M., et al. Cell Cycle 8(11):1725-1732(2009) Liu, L., et al. Cell Cycle 8(4):628-638(2009) Freibaum, B.D., et al. J. Biol. Chem. 283(35):23671-23676(2008) Bae, J.B., et al. Oncogene 27(37):5045-5056(2008) Demuth, I., et al. DNA Repair (Amst.) 7(8):1192-1201(2008) Matsuoka, S., et al. Science 316(5828):1160-1166(2007) Lenain, C., et al. Curr. Biol. 16(13):1303-1310(2006) Freibaum, B.D., et al. J. Biol. Chem. 281(22):15033-15036(2006) Ishiai, M., et al. Mol. Cell. Biol. 24(24):10733-10741(2004) Demuth, I., et al. Oncogene 23(53):8611-8618(2004) Dronkert, M.L., et al. Mol. Cell. Biol. 20(13):4553-4561(2000)