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POLK Blocking Peptide (Center)

Synthetic peptide
Catalog # BP19981c

Specification

POLK Blocking Peptide (Center) - Product Information

Primary Accession	Q9UBT6
Other Accession	NP_057302.1

POLK Blocking Peptide (Center) - Additional Information

Gene ID 51426

Other Names
DNA polymerase kappa, DINB protein, DINP, POLK, DINB1

Target/Specificity
The synthetic peptide sequence is selected from aa 546-560 of HUMAN POLK

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.

POLK Blocking Peptide (Center) - Protein Information

Name POLK

Synonyms DINB1

Function
DNA polymerase specifically involved in DNA repair. Plays an important role in translesion synthesis, where the normal high-fidelity DNA polymerases cannot proceed and DNA synthesis stalls. Depending on the context, it inserts the correct base, but causes frequent base transitions, transversions and frameshifts. Lacks 3'-5' proofreading exonuclease activity. Forms a Schiff base with 5'-deoxyribose phosphate at abasic sites, but does not have lyase activity.

Cellular Location
Nucleus. Note=Detected throughout the nucleus and at replication foci (PubMed:12414988). Recruited to DNA damage sites in response to ultraviolet irradiation: N6-methyladenosine (m6A)-containing mRNAs accumulate in the vicinity of DNA damage sites and their presence is required to recruit POLK (PubMed:28297716)

Tissue Location
Detected at low levels in testis, spleen, prostate and ovary. Detected at very low levels in kidney, colon, brain, heart, liver, lung, placenta, pancreas and peripheral blood leukocytes

POLK Blocking Peptide (Center) - Protocols

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

- Blocking Peptides

POLK Blocking Peptide (Center) - Images

POLK Blocking Peptide (Center) - Background

External and internal DNA-damaging agents continually threaten the integrity of genetic material in cells. Although a variety of repair mechanisms exist to remove the resulting lesions, some lesions escape repair and block the replication machinery. Members of the Y family of DNA polymerases, such as POLK, permit the continuity of the replication fork by allowing replication through such DNA lesions. Each Y family polymerase has a unique DNA-damage bypass and fidelity profile. POLK is specialized for the extension step of lesion bypass (summary by Lone et al., 2007 [PubMed 17317631]).

POLK Blocking Peptide (Center) - References

Rose, J.E., et al. Mol. Med. 16 (7-8), 247-253 (2010) :
Monsees, G.M., et al. Breast Cancer Res. Treat. (2010) In press :
Katafuchi, A., et al. Nucleic Acids Res. 38(3):859-867(2010)
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