

**TDP1 Antibody (Center) Blocking Peptide**  
**Synthetic peptide**  
**Catalog # BP17653c****Specification**

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**TDP1 Antibody (Center) Blocking Peptide - Product Information**Primary Accession [Q9NUW8](#)**TDP1 Antibody (Center) Blocking Peptide - Additional Information****Gene ID** 55775**Other Names**

Tyrosyl-DNA phosphodiesterase 1, Tyr-DNA phosphodiesterase 1, 314-, TDP1

**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.

**TDP1 Antibody (Center) Blocking Peptide - Protein Information****Name** TDP1**Function**

DNA repair enzyme that can remove a variety of covalent adducts from DNA through hydrolysis of a 3'-phosphodiester bond, giving rise to DNA with a free 3' phosphate. Catalyzes the hydrolysis of dead- end complexes between DNA and the topoisomerase I active site tyrosine residue. Hydrolyzes 3'-phosphoglycolates on protruding 3' ends on DNA double-strand breaks due to DNA damage by radiation and free radicals. Acts on blunt-ended double-strand DNA breaks and on single-stranded DNA. Has low 3'exonuclease activity and can remove a single nucleoside from the 3'end of DNA and RNA molecules with 3'hydroxyl groups. Has no exonuclease activity towards DNA or RNA with a 3'phosphate.

**Cellular Location**

Nucleus. Cytoplasm

**Tissue Location**

Ubiquitously expressed. Similar expression throughout the central nervous system (whole brain, amygdala, caudate nucleus, cerebellum, cerebral cortex, frontal lobe, hippocampus, medulla oblongata, occipital lobe, putamen, substantia nigra, temporal lobe, thalamus, nucleus accumbens and spinal cord) and increased expression in testis and thymus.

## **TDP1 Antibody (Center) Blocking Peptide - Protocols**

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

- [Blocking Peptides](#)

## **TDP1 Antibody (Center) Blocking Peptide - Images**

## **TDP1 Antibody (Center) Blocking Peptide - Background**

The protein encoded by this gene is involved in repairing stalled topoisomerase I-DNA complexes by catalyzing the hydrolysis of the phosphodiester bond between the tyrosine residue of topoisomerase I and the 3-prime phosphate of DNA. This protein may also remove glycolate from single-stranded DNA containing 3-prime phosphoglycolate, suggesting a role in repair of free-radical mediated DNA double-strand breaks. This gene is a member of the phospholipase D family and contains two PLD phosphodiesterase domains. Mutations in this gene are associated with the disease spinocerebellar ataxia with axonal neuropathy (SCAN1). While several transcript variants may exist for this gene, the full-length nature of only two have been described to date. These two represent the major variants of this gene and encode the same isoform.

## **TDP1 Antibody (Center) Blocking Peptide - References**

Dexheimer, T.S., et al. Nucleic Acids Res. 38(7):2444-2452(2010) Chiang, S.C., et al. Cell Cycle 9(3):588-595(2010) Das, B.B., et al. EMBO J. 28(23):3667-3680(2009) Zhou, T., et al. DNA Repair (Amst.) 8(8):901-911(2009) Hoskins, J.M., et al. Pharmacogenomics 10(7):1139-1146(2009)