TDP1 Antibody (Center) Blocking Peptide

PRODUCT OVERVIEW

Product Name	TDP1, Blocking Peptide
Full Product Name	TDP1 Antibody (Center) Blocking Peptide
Product Gene Name	TDP1 blocking peptide
Product Synonym Names	Tyrosyl-DNA phosphodiesterase 1; Tyr-DNA phosphodiesterase 1; 314-; TDP1
Form/Format	Synthetic peptide was lyophilized with 100% acetonitrile and is supplied as a powder. Reconstitute with 0.1 ml DI water for a final concentration of 1 mg/ml.
Preparation and Storage	Maintain refrigerated at 2-8 degree C for up to 6 months. For long term storage store at -20 degree C.
Antibody/Peptide Pairs	TDP1 peptide (MBS9222757) is used for blocking the activity of TDP1 antibody (MBS9210735)
Molecular Weight	41,630 Da
OMIM	607198
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
Related Product Information for TDP1 blocking peptide	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.
Other Notes	Small volumes of TDP1 blocking peptide vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for TDP1 purchase	MBS9222757 is a blocking peptide targeting TDP1. Also known as TDP1 Antibody (Center) Blocking Peptide.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for TDP1. It may not necessarily be applicable to this product.

NCBI GI #	37999797
NCBI GeneID	55775
NCBI Accession #	Q9NUW8.2
UniProt Primary Accession #	Q9NUW8
UniProt Secondary Accession #	Q2HXX4; Q86TV8; Q96BK7; Q9NZM7; Q9NZM8
UniProt Related Accession #	Q9NUW8
NCBI Official Full Name	Tyrosyl-DNA phosphodiesterase 1
NCBI Official Synonym Full Names	tyrosyl-DNA phosphodiesterase 1

NCBI Official Symbol	TDP1
UniProt Protein Name	Tyrosyl-DNA phosphodiesterase 1
Protein Family	Tyrosyl-DNA phosphodiesterase
UniProt Gene Name	TDP1
UniProt Synonym Gene Names	Tyr-DNA phosphodiesterase 1
UniProt Entry Name	TYDP1_HUMAN
NCBI Protein Information	tyrosyl-DNA phosphodiesterase 1
NCBI Summary for TDP1	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 natures of only two have been described to date. These two represent the major variants of this gene and encode the same isoform. [provided by RefSeq, Jul 2008]
UniProt Comments for TDP1	TDP1: 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. Monomer. 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. Belongs to the tyrosyl-DNA phosphodiesterase family. Protein type: EC 3.1.4.-; Phosphodiesterase; DNA repair, damage Chromosomal Location of Human Ortholog: 14q32.11 Cellular Component: cytoplasm; intracellular membrane-bound organelle; nucleus; plasma membrane Molecular Function: double-stranded DNA binding; protein binding; single-stranded DNA binding; tyrosyl-DNA phosphodiesterase activity Biological Process: DNA repair; double-strand break repair; single strand break repair Disease: Spinocerebellar Ataxia, Autosomal Recessive, With Axonal Neuropathy
Research Articles on TDP1	**1.** The data obtained suggest that PARP1 and TDP1 bind in an antiparallel orientation; the N-terminus of the former protein interacts with the C-terminal domain of the latter.
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