

Product datasheet for RN214106

Tdp2 (NM_001034947) Rat Untagged Clone

Product data:

Product Type: Expression Plasmids
 Product Name: Tdp2 (NM_001034947) Rat Untagged Clone
 Tag: Tag Free
 Symbol: Tdp2
 Synonyms: Ttrap
 Vector: pCMV6-Entry (PS100001)
 E. coli Selection: Kanamycin (25 ug/mL)
 Cell Selection: Neomycin
 Fully Sequenced ORF: >RN214106 representing NM_001034947
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGCC**

ATGGCGTCTGGCAGCAGTCCGATGCGCGGAGTCCGCAGAGCCGGCGGGCGCCCGCAGCAGCAGAGA
 CGGAGGAGGATCAGGTGAAGAGGCGCGCTTCAGTCCCTGGGATTTGCGTTGGTACGAGCTGCGACAC
 TACGGTGGCTTCCACTTTCCTGTGCGGAGAACAACCTGGCAGACGAAAAAGCGTTGAGCGCCTTCTCGAG
 CAGCCAGAGAACGACCTAGCGCGCCTCACCAGCCTCCGACATCCTCAAGTCCGAGGACTATGTTGATC
 TAACCAATGAGGATGCAAATGATACCACATTTTAGAAACCAGTCCATCTGGAACCTCTAGAAGATAG
 CAGCACTATCTCTTTCATTACCTGGAATATTGATGGATTAGATGGATGCAATCTCCAGAGAGGGCTCGA
 GGGGTGTGTTCTGCCTTGCTTTGTACAGTCCGGACGTGGTATTTCTACAGGAAGTGATCCCTCCTACT
 GTGCCTACCTAAGGAAGAGAGCACGCACCTACAACATTATTACAGGTAATGAAGAAGGATATTTACACAGC
 TATATTATTGAAGAAAGGAAGAGTGAATTTAAAGGTCAAGAAATTTTCCTTTTCCAAATACCAAATG
 ATGAGAAACCTTCTGTGTGTAATGTGAGTTGGGTGGAATGAATTTGCTTATGACATCCCATTGG
 AGAGCACAAGAAAACATCTGCTGAACGAATAAATCAATTA AAAACTGTTTTTCAAAAAATGCAAGAGGC
 TACAGATTCAACTACTGTTATATTTGCAGGAGATACAAATTTAAGAGATCAAGAAGTTATCAAATGTGGT
 GTTTTACCTGACAATGTTTTGATGCTGGGAATTTTTGGCAAACCTAAGCATTGCCGGTATACATGGG
 ATACGAAAGCAAACGATAATCTCAGGATTCCTGCCGCTTGAAGCATCGTTTTGATCGAATATTCTTCAG
 AGCAGAAGAGGGACACCTTATCCCAAAGTTTAGACCTAATTGGGTTGGAAAGACTGGACTGTGGTAGA
 TTTCTAGTGATCACTGGGGCTCCTGTGTACCTGAATGTAGTATTG**TGA**

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites: SgfI-MluI
 ACCN: NM_001034947



Insert Size:	1101 bp
OTI Disclaimer:	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
Components:	The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).
Reconstitution Method:	<ol style="list-style-type: none">1. Centrifuge at 5,000xg for 5min.2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.3. Close the tube and incubate for 10 minutes at room temperature.4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.
RefSeq:	<u>NM_001034947.1</u> , <u>NP_001030119.1</u>
RefSeq Size:	1966 bp
RefSeq ORF:	1101 bp
Locus ID:	498749
UniProt ID:	<u>Q3T1H5</u>
Cytogenetics:	17p11
Gene Summary:	DNA repair enzyme that can remove a variety of covalent adducts from DNA through hydrolysis of a 5'-phosphodiester bond, giving rise to DNA with a free 5' phosphate. Catalyzes the hydrolysis of dead-end complexes between DNA and the topoisomerase 2 (TOP2) active site tyrosine residue. The 5'-tyrosyl DNA phosphodiesterase activity can enable the repair of TOP2-induced DNA double-strand breaks/DSBs without the need for nuclease activity, creating a 'clean' DSB with 5'-phosphate termini that are ready for ligation. Thereby, protects the transcription of many genes involved in neurological development and maintenance from the abortive activity of TOP2. Hydrolyzes 5'-phosphoglycolates on protruding 5' ends on DSBs due to DNA damage by radiation and free radicals. Has preference for single-stranded DNA or duplex DNA with a 4 base pair overhang as substrate. Has also 3'-tyrosyl DNA phosphodiesterase activity, but less efficiently and much slower than TDP1. Constitutes the major if not only 5'-tyrosyl-DNA phosphodiesterase in cells. Also acts as an adapter by participating in the specific activation of MAP3K7/TAK1 in response to TGF-beta: associates with components of the TGF-beta receptor-TRAF6-TAK1 signaling module and promotes their ubiquitination dependent complex formation. Involved in non-canonical TGF-beta induced signaling routes. May also act as a negative regulator of ETS1 and may inhibit NF-kappa-B activation. Acts as a regulator of ribosome biogenesis following stress.[UniProtKB/Swiss-Prot Function]