

Product datasheet for **RR214106**

Tdp2 (NM_001034947) Rat Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: Tdp2 (NM_001034947) Rat Tagged ORF Clone
Tag: Myc-DDK
Symbol: Tdp2
Synonyms: Ttrap
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
Cell Selection: Neomycin
ORF Nucleotide Sequence: >RR214106 representing NM_001034947
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGGATCGCC**

ATGGCGTCTGGCAGCAGTTCGGATGCGGGGAGTCCGGCAGAGCCGGCGGGCGCCCGCAGCAGCAGAGA
CGGAGGAGGATCAGGTGAAGAGGCGGGCTTCAGTCCCTGGGATTTGCGTTGGTACGAGCTGCGACAC
TACGGTGGCTTCCACTTTCCTGTGCGGAGAACAACCTGGCAGACGAAAAAGCGTTGAGCGCCTTCTTCGAG
CAGCCAGAGAACGACCTAGCGCGGCCTCACCAGCCTCCGACATCCTCCAAGTCCGAGGACTATGTTGATC
TAACCAATGAGGATGCAAATGATACCACATTTTAAAGAACAGTCCATCTGGAACCTCTAGAAGATAG
CAGCACTATCTCTTTCATTACCTGGAATATTGATGGATTAGATGGATGCAATCTCCAGAGAGGGCTCGA
GGGGTGTGTTCTGCCTTGTCTTGTACAGTCCGGACGTGGTATTCTACAGGAAGTGATTCCTCCTACT
GTGCCTACCTAAGGAAGAGAGCACGCACCTACAACATTATTACAGGTAATGAAGAAGGATATTTACACAGC
TATATTATTGAAGAAAGGAAGAGTGAATTTAAAGGTCAAGAAATTTTCCTTTTCCAAATACCAAATG
ATGAGAAACCTTCTGTGTGTAATGTGAGTTGGGTGGAATGAATTTGCTTATGACATCCCATTGG
AGAGCACAAGAAAACATTCTGCTGAACGAATAAATCAATTAAGAACTGTTTTTCAAAAAATGCAAGAGGC
TACAGATTCAACTACTGTTATATTTGCAGGAGATACAAATTTAAGAGATCAAGAAGTTATCAAAATGTGGT
GGTTTACCTGACAATGTTTTGTGCTGGGAATTTTGGGCAAACTAAGCATTGCCGGTATACATGGG
ATACGAAAGCAAACGATAATCTCAGGATTCCTGCCGTTGTAAGCATCGTTTTGATCGAATATTCTTCAG
AGCAGAAGAGGGACACCTTATCCCAAAGTTTAGACCTAATTGGGTTGGAAAGACTGGACTGTGGTAGA
TTTCTAGTGATCACTGGGGCTCCTGTGTACCTGAATGTAGTATTG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RR214106 representing NM_001034947
 Red=Cloning site Green=Tags(s)

MASGSSSDAAESAEPAAAPAAAETEEDQVKRRRLQSLGFALVTSDDTTVASTFLENNWQTKKALSAFFE
 QPENDLARPHQPPTSSKSEYVDLTNEDANDTTILETSPSGTPLEDSSTISFITWNIDGLDGCNLERAR
 GVCSCALALYSPDVVFLQEVIPSYCAYLRKRARTYNIITGNEEGYFTAILLKKGRVKFKGQEIIPFPNTKM
 MRNLLCVNVSLGGNEFCLMTSHLESTRKHAERINQLKTVFQKMQEATDSTTVIFAGDTNLRDQEVKCG
 GLPDNVFDAWEFLGKPKHCRYTWDTKANDNLRIPAACKHRFDRIFFRAEEGHLIPQSLDLIGLERLDCGR
 FPSDHWGLLCTLNVVL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

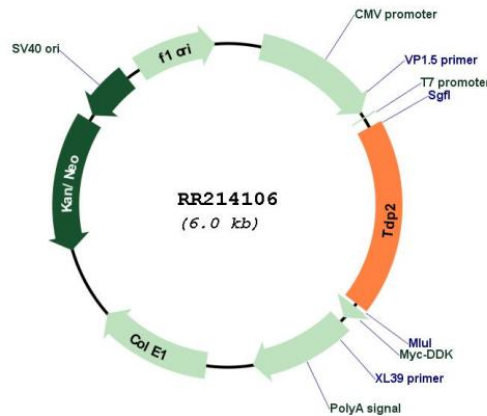
Restriction Sites:

Sgfl-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM_001034947

ORF Size:	1098 bp
OTI Disclaimer:	The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. More info
OTI Annotation:	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
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:	NM_001034947.1 , NP_001030119.1
RefSeq Size:	1966 bp
RefSeq ORF:	1101 bp
Locus ID:	498749
UniProt ID:	Q3T1H5
Cytogenetics:	17p11
MW:	40.8 kDa

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]