

Product datasheet for **RG217014**

Twinkle (TWNK) (NM_021830) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Twinkle (TWNK) (NM_021830) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Twinkle
Synonyms:	ATXN8; C10orf2; IOSCA; MTDPS7; PEO; PEO1; PEOA3; PRLT55; SANDO; SCA8; TWINL
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide
Sequence:**

>RG217014 representing NM_021830
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGC**

ATGTGGGTCTCTCCGAAGTGGGTACCCCTCCGTATCTTGTTACCCCTGCGTGGGGAGTGGATGGGTC
 GGAGGGGCTGCCCCGAACTTGGCCCCAGGCCCTCCTCGCAGACGTTACAGGAAGGAGACTCTCCAAGC
 CTTGGATATGCCAGTGTTGCCTGTAAGTCAACTGAAATCCGCCAGTATTTGCGGGGCATGGGATCCCC
 TTCCAGGATGGTCACAGTTGCCTGCGGGCACTGAGCCCCCTTGCAGAGTCTTACAGCTCAAAGGCCAGA
 CTGGTGTACCCTTCTTCAGCCTCTTATTGACAAGACCACAGGCCACTTTCTCTGCATGACCAGCCT
 AGCAGAAGGGAGCTGGGAAGACTTCCAGGCCAGCGTGGAGGGCGAGGGGATGGGGCCAGGGAGGGGTTT
 CTGCTTAGCAAGGCACCAGAATTTGAGGACAGCGAGGAGGTCCGAGGATCTGGAACCGAGCAATACCTC
 TCTGGGAGCTGCCTGATCAGGAGGAGTTTCACTGGCTGATACAATGTTTGGCCTTACCAAGGTTACAGA
 TGACACACTCAAGCGTTTCAGTGTGCGATATCTGCGACCTGCTCGCAGTCTTGTCTTCCCTTGGTCTCC
 CCTGGGGGCTCAGGATTACGAGGCCTGAAGCTCCTAGAGGCTAAATGCCAGGGGGATGGAGTGAGCTACG
 AGGAAACCACTATTCCCCGACCCAGCGCCTACCACAATCTGTTTGGATTACCACTGATTAGTCGTCGAGA
 TGCTGAGGTGGTACTGACGAGTCGTGAGCTTGACAGCCTGGCCTTGAACCACTCCACGGGGCTGCCTACC
 CTTACTCTACCCCGAGGAACGACCTGCTTACCCCTGCCTTACTCCCTTACCTGGAACAGTTCGGGCGGA
 TTGTATTCTGGTTGGGGGATGACCTTCGGTCTGGGAAGCCGCCAAGTTGTTGCACGAAAACCTGAACCC
 CAAACGATGCTTCTTGGTGCACAGGAGACAGCAACCCCGTCCCTGGAGGCCCTGAACGGAGGCTTC
 AATCTTTCTCGTATTCTTGTACCGCCCTGCCTGCCTGGCACAAGTCCATCGTATCTTCCGGCAGCTTC
 GGGAGGAGGTGCTAGGAGAACTGTCAAATGTGGAGCAAGCAGCTGGCCTCCGCTGGAGCCGCTTTCAGA
 CCTCAATCGTATCTTGAAGGGACATCGAAAGGGCGAGCTGACGGTCTTACAGGGCCAACAGGCAGTGGA
 AAGACGACATTTCATCAGTGAGTATGCCCTGGATTTGTGTTCCAGGGGGTGAACACACTGTGGGTAGCT
 TCGAGATCAGCAATGTGAGACTAGCCCGGGTCTGCTGACACAGTTTGCCGAGGGGCGGCTGGAAGATCA
 ACTGGACAAATATGATCACTGGGCTGACCGCTTTGAGGACCTGCCCTCTATTTTCATGACTTTCATGGA
 CAGCAAAGCATCAGGACTGTAATAGATACAATGCAACATGCAGTCTACGTCTATGACATTTGTCTGTGA
 TCATCGACAACCTGCAGTTCATGATGGGTACGAGCAGCTGTCCACAGACAGGATCGCAGCTCAAGACTA
 CATCATCGGGTCTTTTCGGAAGTTTGAACAGACAATAACTGCCATGTGACACTGGTCATTACCCCCGG
 AAAGAGGATGATGACAAGGAAGTGCAGACAGCGTCCATTTTGGCTCAGCCAAAGCAAGCCAGGAAGCAG
 ACAATGTTCTGATCCTGCAGGACAGGAAGCTGGTAACCGGGCCAGGGAAACGGTATCTGCAGGTGTCCAA
 GAACCGCTTTGATGGAGATGTAGGTGTCTTCCCGCTTGAGTTCAACAAGAAGTCCCTCACCTTCTCCATT
 CCACCAAAGAACAAGGCCCGGCTCAAGAAGATCAAGGATGACACTGGACCAAGTGGCCAAAAGCCCTCTT
 CTGGCAAAAAGGGGGCTACGACACAGAAGTCTGAGATTTGCTCAGGCCAGGCCCCCACTCCCGACCAAGCC
 AGACACCTCCAAGCGTTCAAAG

ACGCGTACGCGGGCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence: >RG217014 representing NM_021830
 Red=Cloning site Green=Tags(s)

MWVLLRSGYPLRILLPLRGEWMGRRGLPRNLAPGPPRRRYRKETLQALDMPVLPVTATEIRQYLRGHGIP
 FQDGHSCSLRALSPFAESSQLKGQTVTTSFSLFIDKTTGHFLCMTSLAEGSWEDFQASVEGRGDGAREGF
 LLSKAPEFEDSEEVRIWNRAIPLWELPDQEEVQLADTMFGLTKVTDDTLKRFVRYLRPARSLVFPWF
 PGGSGLRGLKLEAKCQGDGVSYEETIPRPSAYHNLFGPLISRRDAEVVLTSLRELDLALNQSTGLPT
 LTLPRGTTCLPPALLPYLEQFRRIVFWLGDDLRSWEAAKLFARKLNPKRCFLVRPGDQQPRPLEALNGGF
 NLSRILRTALPAWHKSIYSFRQLREEVLGELSNVEQAAGLRWSRFPDLNRLKGRKRGELTVFTGPTGSG
 KTTFISEYALDLCQGVNTLWGSFEISNVRLARVMLTQFAEGRLEDQLDKYDHWADRFDLPLYFMTFHG
 QQSIRTVIDTMQHAYVYDICHVIDNLQFMGHEQLSTDRIAAQDYIIIGVFRKFATDNNCHVTLVHPR
 KEDDDKELQTASIFGSAKASQADNVILQDRKLVTPGPKRYLQVSKNRFDDGVGFPLEFNKNSLTF
 PPKNKARLKKIKDDTGPVAKKPSSGKKGATTQNSEICSGQAPTPDQPDTSKRK

TRTRPLE – GFP Tag – V

Restriction Sites:

SgfI-MluI

Cloning Scheme:



ACCN: NM_021830

ORF Size: 2052 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:

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.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [NM_021830.5](#)

RefSeq Size: 3630 bp

RefSeq ORF: 2055 bp

Locus ID: 56652

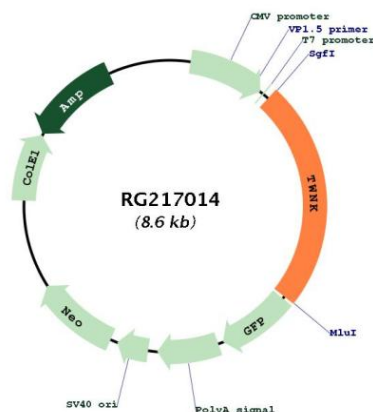
UniProt ID: [Q96RR1](#)

Cytogenetics: 10q24.31

Protein Families: Druggable Genome

Gene Summary: This gene encodes a hexameric DNA helicase which unwinds short stretches of double-stranded DNA in the 5' to 3' direction and, along with mitochondrial single-stranded DNA binding protein and mtDNA polymerase gamma, is thought to play a key role in mtDNA replication. The protein localizes to the mitochondrial matrix and mitochondrial nucleoids. Mutations in this gene cause infantile onset spinocerebellar ataxia (IOSCA) and progressive external ophthalmoplegia (PEO) and are also associated with several mitochondrial depletion syndromes. Alternative splicing results in multiple transcript variants encoding distinct isoforms.[provided by RefSeq, Aug 2009]

Product images:



Circular map for RG217014