

Product datasheet for **RC209721**

TPK1 (NM_022445) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	TPK1 (NM_022445) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	TPK1
Synonyms:	HTPK1; PP20; THMD5
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC209721 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGAGCATGCCTTTACCCCGTTGGAGCCCTGCTTTCCACTGGGAATTTGAAGTACTGCCTTGTAAATTC
TTAATCAGCCTTTGGACAACTATTTTCGTCATCTTTGGAACAAAGCTCTTTAAGAGCCTGTGCCGATGG
AGGTGCCAACCGCTTATATGATATCACCGAAGGAGAGAGAAAAGCTTTTGCCTGAATTCATCAATGGA
GACTTTGATTCTATTAGCCTGAAGTCAGAGAATACTATGCTACTAAGGGATGTGAGCTCATTTCAACTC
CTGATCAAGACCACACTGACTTTACTAAGTGCCTTAAAATGCTCCAAAAGAAGATAGAAGAAAAAGACTT
AAAGGTTGATGTGATCGTGACACTGGGAGGCCTTGCTGGGCGTTTTGACCAGATTATGGCATCTGTGAAT
ACCTTGTTCGAAGCGACTCACATCACTCCTTTTCCAATTATAATAATCCAAGAGGAATCGCTGATCTACC
TGCTCCAACCAGGAAAGCACAGGTTGCATGTAGACTGGAATGGAGGGTGATTGGTGTGGCCTTATTCC
TGTTGGACAGCCTTGTAGTCAGGTTACAACCACAGGCCTCAAGTGGAACTCACAAATGATGTGCTTGCT
TTTGAACATTGGTCAGTACTTCCAATACCTACGACGGGTCTGGTGTGTGACTGTGAAACTGACCACC
CACTCCTCTGGACCATGGCCATCAAAGC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC209721 protein sequence
 Red=Cloning site Green=Tags(s)

MEHAFTPLEPLLSTGNLKYCLVILNQPLDNYFRHLWNKALLRACADGGANRLYDITEGERESFLPEFING
 DFDSIRPEVREYYATKGCELISTPDQDHTDFTKCLKMLQKKIEEKDLKVDVIVTLGGLAGRFQIMASVN
 TLFQATHITPFPIIIIQEESLIYLLQPGKHRLHVDTGMEGDWCGLIPVGQPCSQVTTTGLKWNLTNDVLA
 FGTLVSTSNYDGSVVTVETDHPDLLWMAIKS

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6359_a11.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_022445

ORF Size: 729 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.

RefSeq: [NM_022445.4](#)

RefSeq Size: 2449 bp

RefSeq ORF: 732 bp

Locus ID: 27010

UniProt ID: [Q9H3S4](#)

Cytogenetics: 7q35

Domains: TPK_catalytic, TPK_B1_binding

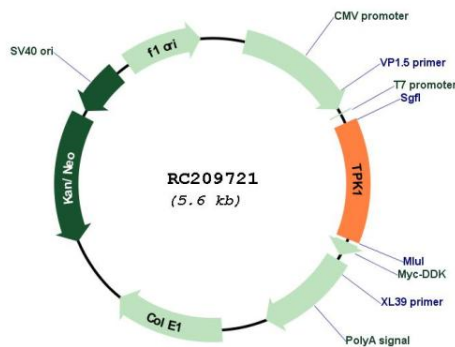
Protein Families: Druggable Genome

Protein Pathways: Metabolic pathways, Thiamine metabolism

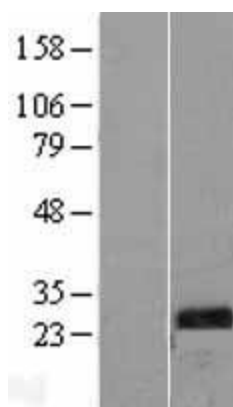
MW: 27.2 kDa

Gene Summary: The protein encoded by this gene functions as a homodimer and catalyzes the conversion of thiamine to thiamine pyrophosphate, a cofactor for some enzymes of the glycolytic and energy production pathways. Defects in this gene are a cause of thiamine metabolism dysfunction syndrome-5. [provided by RefSeq, Apr 2017]

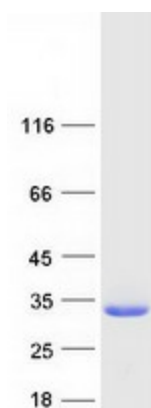
Product images:



Circular map for RC209721



Western blot validation of overexpression lysate (Cat# [LY411708]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC209721 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified TPK1 protein (Cat# [TP309721]). The protein was produced from HEK293T cells transfected with TPK1 cDNA clone (Cat# RC209721) using MegaTran 2.0 (Cat# [TT210002]).