

Product datasheet for **RC215676**

PANK2 (NM_153638) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	PANK2 (NM_153638) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	PANK2
Synonyms:	C20orf48; HARP; HSS; NBIA1; PKAN
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

ORF Nucleotide Sequence:

>RC215676 representing NM_153638
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGAGGAGGCTCGGGCCCTTCCACCCACGCGTCCATTGGCGGCGCCGCCATCACTCTCTTCTGGGCTAC
 ACCGCCTTCTCTTCTCCGCGGAACCCGGATCCCCTCCTCCACCACCCTCTCCCCGCCCGTCACGATAG
 CCTCTCATTGGACGGAGGCACGGTCAATCCTCCTCGAGTTAGGGAGCCGACTGGACGCGAGGCCTTTGGG
 CCGTCCCCAGCCTCGTCGGATTGGCTTCTGCGGTTGGCGCAACGGAAGAGGCGCCGCGGAGGGCGC
 GCCTCTGCTTGCTGGACTGCCGCGGAGGAGGCGAGAAGGAATCCGACGCTGGGGGCTTGTCTGGGCG
 GCAGCGACTGCTGCTGCGGATGGGAGGGGGCCGGCTCGGCGGCCCATGGAGCGCCACGGCAGGGCTTCC
 GCCACCTCGTCTCGTGGTGGGAGCAGGCGCGGGGACCCCAAGGGCGCGGCAGGAGCCACTGCG
 GCGCCGGGCGAGCAGCGCTCGGTGCCGCGGTGGGGCTCGGCTGAGGGCACGAGGCGGGATCGACT
 GGGCTCTTACAGCGGCCCACTCGGTCTCCCGCAGCGCTCGAAAGCCTGAGGAAAAAGCGGCCGCTT
 TTCCATGGTTTGGACTGGATATCGGTGGAATCTGGTCAAGCTGGTATATTTTGAACCCAAAGACATCA
 CTGCTGAAGAAGAAGAGGAAGAAGTGGAAAGTCTTAAAAGCATTGGAAGTACCTGACCTCCAATGTGGC
 TTATGGGTCTACAGGCATTTCGGACGTGCACCTCGAGCTGAAGGACCTGACTCTGTGTGGACGAAAAGC
 AATCTGCACTTTATACGCTTTCCACTCATGACATGCCTGCTTTTATTCAAATGGGCAGAGATAAAAACT
 TCTCGAGTCTCCACACTGTCTTTTGGCCACTGGAGGTGGAGCGTACAAATTTGAGCAGGATTTTCTCAC
 AATAGGTGATCTCAGCTTTGCAAAGTGGATGAAGTACTGCTTGTATCAAAGGAATTTTATACATTGAC
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 AGTTACCATTTGATTTGAAAAATCCGTATCCTCTGCTTCTGGTGAACATTGGCTCAGGGGTTAGCATCTT
 AGCAGTATATCCAAAGATAATTACAAACGGGTACAGGTAAGTCTTGGAGGAGGAACCTTTTTTTGGT
 CTCTGCTGCTTCTTACTGGCTGTACCCTTTTGAAGAAGCTCTTGAATGGCATCTCGTGGAGATAGCA
 CCAAAGTGGATAAACTAGTACGAGATATTTATGGAGGGGACTATGAGAGGTTTGGACTGCCAGGCTGGC
 TGTGGCTTCAAGCTTTGAAACATGATGAGCAAGGAGAAGCGAGAGGCTGTCAAGTAAAGAGGACCTGGCC
 AGAGCGACTTTGATCACCATCACCAACAACATTGGCTCAATAGCAAGAATGTGTGCCCTTATGAAAACA
 TTAACCAGGTGGTATTTGTTGAAATTTCTTGAGAATTAACGATCGCCATGCGCTTTTGGCATATGC
 TTTGGATTATTGGTCCAAGGGCAGTTGAAAGCACTTTTTTTCGGAACACGAGGTTATTTTGGAGCTGT
 GGAGCACTCCTTGAGCTGTTGAAGATCCCG

AG**CGGACCG**ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC
 TGGATTACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC215676 representing NM_153638
 Red=Cloning site Green=Tags(s)

MRRLGPFHPRVHWAAPPSLSSGLHRLFLRGRTRIPSSSTLSPPRHDSLSDGGTVNPPRVREPTGREAFG
 PSPASSDWLPARWRNRRGGRPRARLCSGWTAAEEARRNPTLGGLLGRQRLLRMGGRGRLGAPMERHGRAS
 ATSVSSAGEQAAGDPEGRRQEPLRRRASSASVPAVGASAEGRTRDRLGSYSGPTSVSRQRVESLRKKRPL
 FPWFGLDIGGTLVKLVYFEPKDIATAEEEEVEVSLKSIRKYLTSNVAYGSTGIRDVHLELKDLTLCGRKG
 NLHFIRFPTHMPAFIQMGRDNFSSLHTVFCATGGGAYKFEQDFLTIGDLQLCKLDELDCLIKILYID
 SVGFNGRSQCYYFENPADSEKQKLPFDLKNPYPLLLVNI GSGVSI LAVYSKDNKRVGTSLGGGTFFG
 LCCLLTGCTTFEEALEMASRGDSTKVDKLVVDIYGGDYERFGLPGWAVASSFGNMMSKEKREAVSKEDLA
 RATLITITNIGSIARMCALNENINQVVFVGNFLRINTIAMRLLAYALDYWSKGQLKALFSEHEGYFGAV
 GALLELLKIP

SGP**TRTRRLEQKLI**SEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6222_e07.zip

Restriction Sites:

Sgfl-RsrII

Cloning Scheme:



ACCN: NM_153638

ORF Size: 1710 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_153638.3](#), [NP_705902.2](#)

RefSeq Size: 2280 bp

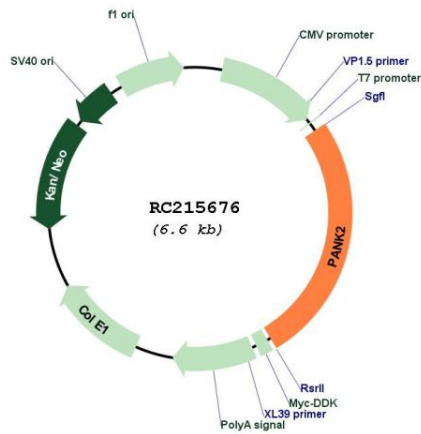
RefSeq ORF: 1713 bp

Locus ID: 80025

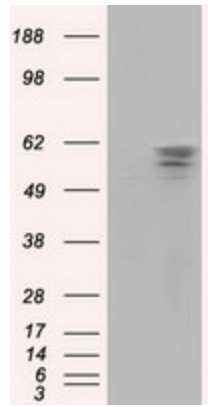
UniProt ID: [Q9BZ23](#)
 Cytogenetics: 20p13
 Protein Families: Druggable Genome
 Protein Pathways: Metabolic pathways, Pantothenate and CoA biosynthesis
 MW: 59.1 kDa

Gene Summary: This gene encodes a protein belonging to the pantothenate kinase family and is the only member of that family to be expressed in mitochondria. Pantothenate kinase is a key regulatory enzyme in the biosynthesis of coenzyme A (CoA) in bacteria and mammalian cells. It catalyzes the first committed step in the universal biosynthetic pathway leading to CoA and is itself subject to regulation through feedback inhibition by acyl CoA species. Mutations in this gene are associated with HARP syndrome and pantothenate kinase-associated neurodegeneration (PKAN), formerly Hallervorden-Spatz syndrome. Alternative splicing, involving the use of alternate first exons, results in multiple transcripts encoding different isoforms. [provided by RefSeq, Jul 2008]

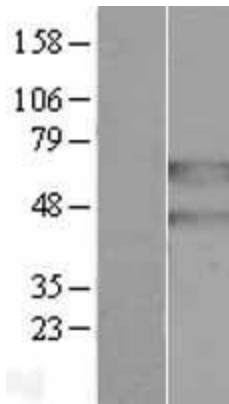
Product images:



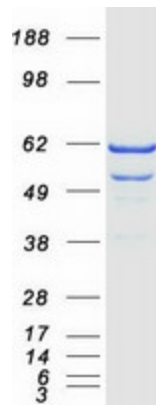
Circular map for RC215676



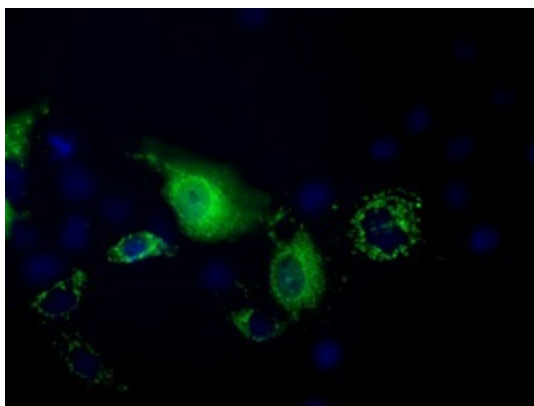
HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY PANK2 (Cat# RC215676, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-PANK2 (Cat# [TA501321]). Positive lysates [LY406998] (100ug) and [LC406998] (20ug) can be purchased separately from OriGene.



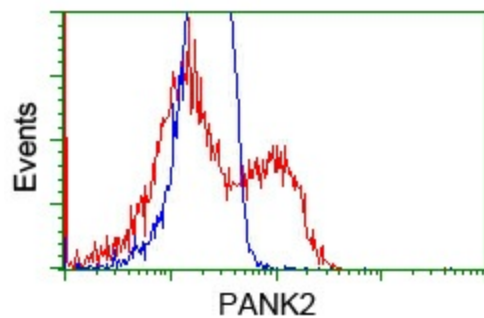
Western blot validation of overexpression lysate (Cat# [LY406998]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC215676 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified PANK2 protein (Cat# [TP315676]). The protein was produced from HEK293T cells transfected with PANK2 cDNA clone (Cat# RC215676) using MegaTran 2.0 (Cat# [TT210002]).



Anti-PANK2 mouse monoclonal antibody (TA501321) immunofluorescent staining of COS7 cells transiently transfected by pCMV6-ENTRY PANK2 (RC215676).



HEK293T cells transfected with either RC215676 overexpress plasmid (Red) or empty vector control plasmid (Blue) were immunostained by anti-PANK2 antibody (TA501321), and then analyzed by flow cytometry.