

## Product datasheet for **RC226606**

### PKR (EIF2AK2) (NM\_001135651) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	PKR (EIF2AK2) (NM_001135651) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	PKR
Synonyms:	EIF2AK1; LEUDEN; PKR; PPP1R83; PRKR
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC226606 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGGCTGGTGATCTTTCAGCAGGTTTCTTCATGGAGAACTTAATACATACCGTCAGAAGCAGGGAGTAG  
 TACTTAAATATCAAGAACTGCCTAATTCAGGACCTCCACATGATAGGAGGTTTACATTTCAAGTTATAAT  
 AGATGGAAGAGAATTTCCAGAAGGTGAAGGTAGATCAAAGAAGGAAGCAAAAAATGCCGACGCAAAATTA  
 GCTGTTGAGATACTTAATAAGGAAAAGAAGGCAGTTAGTCCTTTATTATTGACAACAACGAATTTCTCAG  
 AAGGATTATCCATGGGAATTACATAGGCCTTATCAATAGAATTGCCAGAAGAAAAGACTAACTGTAAA  
 TTATGAACAGTGTGCATCGGGGTGCATGGCCAGAAGGATTTTCATTATAAATGCAAAATGGGACAGAAA  
 GAATATAGTATTGGTACAGGTTCTACTAAACAGGAAGCAAAACAATTGGCCGCTAAACTGCATATCTTC  
 AGATATTATCAGAAGAACTCAGTGAAATCTGACTACCTGTCTCTGGTCTTTTGGTACTACGTGTGA  
 GTCCCAAAGCAACTCTTTAGTGACCAGCACACTCGCTTCTGAATCATCATCTGAAGGTGACTTCTCAGCA  
 GATACATCAGAGATAAATTTCAACAGTGACAGTTTAAACAGTTCTTCGTTGCTTATGAATGGTCTCAGAA  
 ATAATCAAAGGAAGGCAAAAAGATCTTTGGCACCCAGATTTGACCTTCTGACATGAAAAGAAACAAAGTA  
 TACTGTGGACAAGAGGTTTGGCATGGATTTTAAAGAAATAGAATTAATTGGCTCAGGTGGATTTGGCCAA  
 GTTTTCAAAGCAAAACACAGAATTGACGGAAAGACTTACGTTATTAACGTGTTAAATATAATAACGAGA  
 AGGCGGAGCGTGAAGTAAAAGCATTGGCAAACTTGATCATGTAATATTGTTCACTACAATGGCTGTTG  
 GGATGGATTTGATTATGATCCTGAGACCACTGATGATTCTTTGAGAGCAGTGATTATGATCCTGAGAAC  
 AGCAAAAATAGTTCAAGGTCAAAGACTAAGTGCCTTTTCATCAAATGGAATCTGTGATAAAGGGACCT  
 TGGAACAATGGATTGAAAAAGAAGAGCGGAGAAACTAGACAAAGTTTTGGCTTTGGAACCTTTTGAAACA  
 AATAACAAAAGGGTGGATTATATACATTCAAAAAATAATTTCATAGAGATCTTAAGCCAAGTAATATA  
 TTCTTAGTAGATACAAAACAAGTAAAGATTGGAGACTTTGGACTTGAACATCTCTGAAAAATGATGGAA  
 AGCGAACAAGGAGTAAGGGAACCTTTCGATACATGAGCCAGAACAGATTTCTCGCAAGACTATGGAAA  
 GGAAGTGGACCTCTACGCTTTGGGGCTAATTTCTGCTGAACCTTCTCATGTATGTGACACTGCTTTTGAA  
 ACATCAAAGTTTTTACAGACCTACGGGATGGCATCATCTCAGATATATTTGATAAAAAAGAAAAAATCT  
 TTCTACAGAAATTAATCTCAAAGAACTGAGGATCGACCTAACACATCTGAAATACTAAGGACCTTGAC  
 TGTGTGGAAGAAAAGCCAGAGAAAAATGAACGACACACATGT

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC226606 protein sequence  
 Red=Cloning site Green=Tags(s)

MAGDLSAGFFMEELNTYRQKQGVVLKYQELPNSGPPHRRFTFQVIIDGREFPEGEGRSKKEAKNAAKL  
 AVEILNKEKAVSPLLLTTTNSSEGLSMGNYIGLINRIAQKRLTVNYEQCASGVHGPGEFHYKCKMGQK  
 EYSIGTGSTKQEAQLAAKLAYLQILSEETSVKSDYLSGSFATTCEQSNSLVTSTLASESSSEGDFSA  
 DTSEINSDSLNSSLMLNGLRNNQRKAKRSLAPRFDLPDMKETKYTVDKRFGMDFKIEELIGSGFGQ  
 VFAKHRIDGKTYVIKRVKYNNEKAEREVKALAKLDHVNI VHYNGCWDGFDYDPETSDDSLSSDYDPEN  
 SKNSSRSKTKCLFIQMEFCDKGTLEQWIEKRRGEKLDKVLALLEFEQITKGVVDYIHSKLIHRDLKPSNI  
 FLVDTKQVKIGDFGLVTSKNDGKRTRSKGTLRYMSPEQISSQDYGKEVDLYALGLILAELLHVCDTAFE  
 TSKFFDLDLTDGIISDIFDKKEKLLQLLSKKPEDRPNTSEILRTLTVWKKSPKNERHTC

**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mk6195\\_a05.zip](https://cdn.origene.com/chromatograms/mk6195_a05.zip)

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_001135651

**ORF Size:** 1653 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\\_001135651.3](#)

**RefSeq Size:** 4127 bp

**RefSeq ORF:** 1656 bp

**Locus ID:** 5610

**UniProt ID:** [P19525](#)

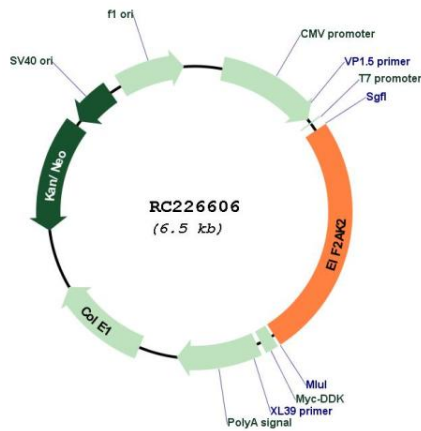
**Cytogenetics:** 2p22.2

**Protein Families:** Druggable Genome, Protein Kinase, Transcription Factors

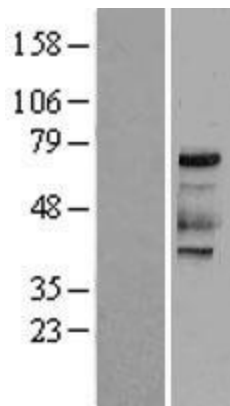
**MW:** 62.1 kDa

**Gene Summary:** The protein encoded by this gene is a serine/threonine protein kinase that is activated by autophosphorylation after binding to dsRNA. The activated form of the encoded protein can phosphorylate translation initiation factor EIF2S1, which in turn inhibits protein synthesis. This protein is also activated by manganese ions and heparin. Three transcript variants encoding two different isoforms have been found for this gene. [provided by RefSeq, Oct 2011]

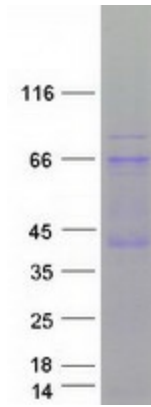
**Product images:**



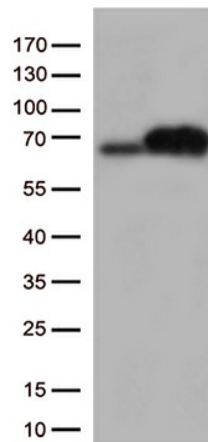
Circular map for RC226606



Western blot validation of overexpression lysate (Cat# [LY427650]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC226606 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified EIF2AK2 protein (Cat# [TP326606]). The protein was produced from HEK293T cells transfected with EIF2AK2 cDNA clone (Cat# RC226606) using MegaTran 2.0 (Cat# [TT210002]).



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY EIF2AK2 (Cat# RC226606, 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-EIF2AK2 (Cat# [TA813289])(1:500).