

## Product datasheet for RC212846

### PHLPP2 (NM\_015020) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	PHLPP2 (NM_015020) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	PHLPP2
Synonyms:	PHLPPL; PPM3B
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC212846 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

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GCC**CGATCGCC**

ATGAAACGCAATGGGAGCAGAAATTGTTTGAATAGGAGAAGTAGGTTTGGTTCTCGAGAAAGAGACTGGC  
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AGGCTGACAGCAGTGAACGTCTATCCAGTACCCAGCCTGCTCACTTTCTTGGATCTCTCCCGAAACCTGC  
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Protein Sequence: >RC212846 protein sequence  
 Red=Cloning site Green=Tags(s)

MKRNGSRNCLNRRSRFGSRERDWRREDVKGRCVLYGADTTTATTTTTSSSSSSSSSSDHLVLCTVE  
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 VPKRKTGYFAAPTQMEPEDQFVVP HDLEEEVKEQMKQHQSRLPEPEHEEDQTEPPEEFDAL

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

Chromatograms: [https://cdn.origene.com/chromatograms/mk6680\\_e12.zip](https://cdn.origene.com/chromatograms/mk6680_e12.zip)

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM\_015020

ORF Size: 3969 bp

**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

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\\_015020.3](#), [NP\\_055835.2](#)

**RefSeq Size:** 8317 bp

**RefSeq ORF:** 3972 bp

**Locus ID:** 23035

**UniProt ID:** [Q6ZVD8](#)

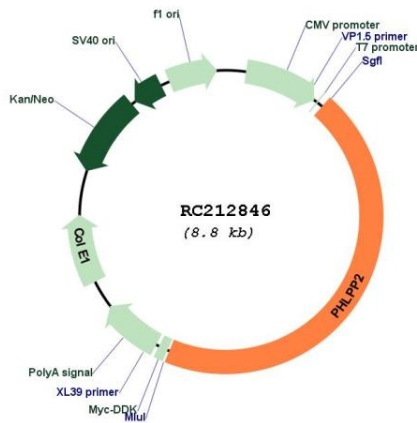
**Cytogenetics:** 16q22.2

**MW:** 146.7 kDa

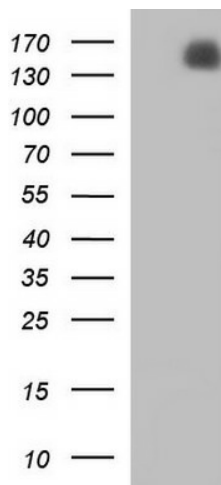
**Gene Summary:**

Protein phosphatase involved in regulation of Akt and PKC signaling. Mediates dephosphorylation in the C-terminal domain hydrophobic motif of members of the AGC Ser/Thr protein kinase family; specifically acts on 'Ser-473' of AKT1, 'Ser-660' of PRKCB isoform beta-II and 'Ser-657' of PRKCA. Akt regulates the balance between cell survival and apoptosis through a cascade that primarily alters the function of transcription factors that regulate pro- and antiapoptotic genes. Dephosphorylation of 'Ser-473' of Akt triggers apoptosis and decreases cell proliferation. Also controls the phosphorylation of AKT3. Dephosphorylates STK4 on 'Thr-387' leading to STK4 activation and apoptosis (PubMed:20513427). Dephosphorylates RPS6KB1 and is involved in regulation of cap-dependent translation (PubMed:21986499). Inhibits cancer cell proliferation and may act as a tumor suppressor. Dephosphorylation of PRKCA and PRKCB leads to their destabilization and degradation. Dephosphorylates RAF1 inhibiting its kinase activity (PubMed:24530606).[UniProtKB/Swiss-Prot Function]

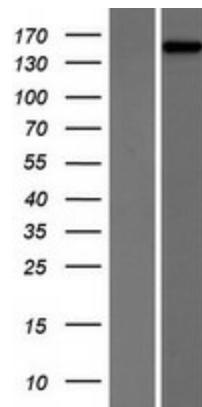
**Product images:**



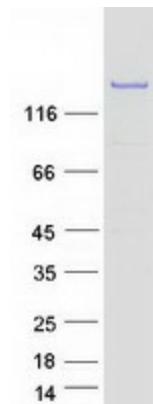
Circular map for RC212846



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY PHLPP2 (Cat# RC212846, 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-PHLPP(Cat# [TA590848]). Positive lysates [LY414856] (100ug) and [LC414856] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY414856]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC212846 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified PHLPP2 protein (Cat# [TP312846]). The protein was produced from HEK293T cells transfected with PHLPP2 cDNA clone (Cat# RC212846) using MegaTran 2.0 (Cat# [TT210002]).