

## Product datasheet for **RG204185**

### PHKA2 (NM\_000292) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	PHKA2 (NM_000292) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	PHKA2
Synonyms:	GSD9A; PHK; PYK; PYKL; XLG; XLG2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG204185 representing NM_000292 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGCGGAGCAGGAGCAATTCGGGGTCCGCTTGGACGGGTACGCGCGGCTGGTGCAGCAAACCATCCTGT  
GTTACCAGAATCCCGTCACGGGGCTGCTGTGAGCCAGCCATGAGCAGAAGGATGCCTGGGTGCGGGATAA  
CATCTACAGTATCCTGGCCGTGTGGGGCTGGGCATGGCCTACCGTAAGAATGCAGACCCGATGAGGAC  
AAGCCAAAGCCACGAGCTGGAGCAGAACGTGGTGAAGCTGATGCGAGGTCTTCTCCAGTGCATGATGA  
GACAGGTGGCCAAAGTGGAGAAGTTCAAACACACTCAGAGCACCAAGGACAGCCTGCACGCCAAGTACAA  
CACCGCCACCTGTGGCAGGTGGTGGGGCAGCACCAGTGGGGCCACCTCCAGGTGGATGCCACCTCTCTC  
TTCTCTCTGTTCCGGCCAGATGACCGCCTCAGGCTTACGTATCATTTCCTCCTCGATGAGGTGGCCT  
TCATACAGAATCTGTCTTTTACATAGAAGCTGCATATAAAGTCGCTGATTATGGAATGTGGGAGCGTGG  
AGATAAGACTAATCAGGGCATCCCGAATTGAATGCAAGTCCGTAGGAATGGCCAAGGCAGCTCTTGAG  
GCAATTGATGAAGTGGACCTTTTGGAGCCATGGAGGACGCAAGTCAGTGATTCATGTTCTGCCAGATG  
AGGTCGAGCACTGCCAGTCTATTCTGTTCTCCATGCTGCCAAGAGCGTCGACATCAAAGAAATGATGC  
TGGACTTCTTCCATTATTTCTTCCCGCCCTTGCAGTGAAGATGTAACCTTGTAATGTGACCAAA  
AATGAAATTTTCTAAGCTCCAGGGCGTATGGATGCTGCTTCCGATGGTTATAAAACTC  
CAAGAGAGGACCCTAATCGACTGCATTATGACCCTGCTGAAGCTTTCGAAAACATTGAATGTGA  
GTGGCCTGTGTTTGGACATATTTATAATAGATGGAGTCTTCAGTGGTGTGCTGTTCCAGTCCAAAGAA  
TACCGAGAGGCCCTGGAGGGAATACTCATCAGAGGCAAGAATGGGATCCGCTGGTGCCTGAAGTCTACG  
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GGTGCCTCATCTGTGGGGCAATCCTTGTACATCCTCAGCTCGCTGTTGGCAGAGGGATTCTTGCCGCT  
GGTGAATCGATCCCTTAAATAGAAGATTTTCCACTTCAGTCAAACCTGATGTTGTAGTACAAGTACTG  
TTTTGGCAGAAAACAATCACATTAAGGACTTATTGAGGAAACACGGGGTGAACGTCCAGAGTATCGCGGA  
CATTATCCAATTCAAGTCCAGCCGGCCGGATTCTTAGTCACATATATGCCAAGCTTGGACGGAATAAG



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AATATGAATTTGAGTGGGCGACCGTATCGACATATTGGTGTCTTGGAACTCTAACTATATGTGATTA  
GGAACCAATCTTTACTTTTACACCCAGTTCAACGACGAGCATCACTTCTACCTGGCCCTCGACAATGA  
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CCACAATTAGAAAAGTAGAGGATGGATATTTGGAGGAGCCAGAGTAAAATTAGGGAACCTTTCCGAATT  
TCTCACCACATCGTTCTACACATATCTGACTTTTCTGGATCCAGACTGTGATGAGAAGTTGTTTGACAAT  
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TCTCTGCGCCCTTCCCCAGAGGAGCTCACAAACTCATCTACGAGGCCAGTGGGCAGGACATCAGCAT  
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GTCCAGCAGTGGCATTCTCCAAGTCTGCGAGGTCCAGCACCCATCCTCGCCCACTGGCAGTCACTCC  
TCAGACTCGGGAGGACATCACATCGGCTGGGGTGAAGCGCAGGGCCAGTGGCTGCGCAGGAGAAGGCTGG  
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TCTCTCCATCGATGGTTATGTCTCCCATCCTCGACGACCCGAGAGATGACCCCGCATGAGATCAAGTTT  
GCTGTCCATGTCGAATCGGTGCTGAACCGCTGCCGACCCGAGTACCGGCAGCTGCTGGTGGAAAGCCA  
TCATGGTGTGACGCTGCTCTCGGACACGGAGATGACCAGCATCGGGGCATCATCCACGTGGACCAGAT  
CGTGCAGATGGCCAGTCACTGTTCTTGCAGGACCAGGTGCAATTGGTGCCATGGACACCCTGGAGAAA  
GACCAAGCCACAGGAATCTGCCACTTCTTTATGACAGCGCTCCGAGTGGGGCTTATGGGACGATGACCT  
ACCTAACAAAGAGCAGTGGCTTCTTATTTGCAGGAATTGTTGCCAATTCCGGGCTGCCAGATGCAA

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >RG204185 representing NM\_000292  
 Red=Cloning site Green=Tags(s)

MRSRSNSGVRLDGYARLVQQTILCYQNPVTGLLSASHEQKDAWVRDNIYSILAVWGLGMAYRKNADRDED  
 KAKAYELEQNVVKLMRGLLQCMMRQVAKVEKFKHTQSTKDSLHAKYNTATCGTVVGDDQWGHQVDATSL  
 FLLFLAQMNTASGLRIIFTLDEVAFIQNLVFYIEAAYKVADYGMWERGDKTNQGIPELNASSVGMKAAL  
 AIDELDLFGAHGGRKSVIHVLPDEVEHCQSILFMSLPRASTSKEIDAGLLSIIISFPFAVEDVNLVNVTK  
 NEIISKLQGRYGCCFLRDGYKTPREDPNRLHYDPAELKLFENIECEWPVFWTYF IIDGVFSGDAVQVQE  
 YREALEGILIRGKNGIRLVPELYAVPPNKVDDEYKNPHTVDRVPMGKVPHLWGQSLYILSSLLAEGFLAA  
 GEIDPLNRRFSTSVKPDVVVQVTVLAENNHKDLLRKHGVNVQSIADIHPIQVQPGRILSHIYAKLGRNK  
 NMNLSGRPYRHIGVLGTSKLYVIRNQIFTFPQFTDEHHFYALDNEMIVEMLRIELAYLCTCWRMTGRP  
 TLFPISRMTLNDGSDIHSAVLSTIRKLEDGYFGGARVKLGNLSEFLTTSFYTYLTFLDPCDEKLFDN  
 ASEGTFSPDSDDL VGYLEDTCNQESQDEL DHYINHLQSTSLRSYLPPLCKNTEDRHVFSAIHSTRDIL  
 SVMAKAKGLEVPFVPMTLPTKVL SAHRKSLNLVDSQPILLEKVPESDFQWPRDDHSDVDCEKLEVLKDC  
 SNLQDQADILYILYVIKGPSWDNL SGQHGVTVQNL LGELYGKAGLNQEWGLIRYISGLLRKKVEVLAEA  
 CTDLLSHQQLTVGLPPEPREKII SAPLPPEELTKLIYEASGQDISIAVLTQEIVVYLAMYVRAQPSLFV  
 EMLRLRIGLIIQVMATELARSLNCSGEEASELMNLSPFDMKNLLHHILSGKEFGVERSVRPIHSSTSSP  
 TISIHEVGHGTGVTKTERSGINRLRSEMKOMTRRFSADEQFFSVGQAASSSAHSSKSARSSTPSSPTGTS  
 SDSGGHHIGWGERQGWLRRRLDGA INRVPVGFYQRVWKILQKCHGLSIDGYVLPSTTREMTPHEIKF  
 AVHVESVLNRVPQPEYRQLLVEAIMVL TLLSDTEMTSIGGIHVDQIVQMASQLFLQDQVSI GAMDTLEK  
 DQATGICHFFYDSAPSGAYGTM TYL TRAVASYLQELL PNSGCQMQ

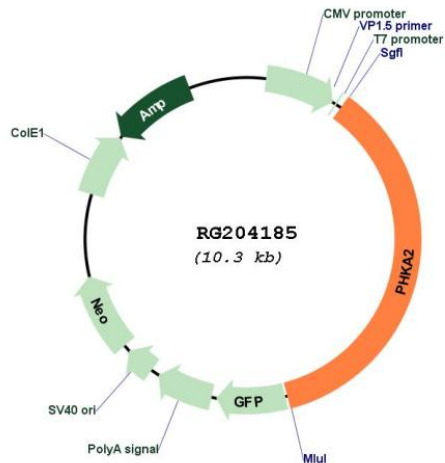
TRTRPLE - GFP Tag - V

Restriction Sites:

Sgfl-MluI

Cloning Scheme:



**Plasmid Map:**


**ACCN:** NM\_000292

**ORF Size:** 3705 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\\_000292.1](#), [NP\\_000283.1](#)

**RefSeq Size:** 4566 bp

**RefSeq ORF:** 3708 bp

**Locus ID:** 5256

**UniProt ID:** [P46019](#)

**Cytogenetics:** Xp22.13

<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Calcium signaling pathway, Insulin signaling pathway
<b>Gene Summary:</b>	<p>Phosphorylase kinase is a polymer of 16 subunits, four each of alpha, beta, gamma and delta. The alpha subunit includes the skeletal muscle and hepatic isoforms, and the hepatic isoform is encoded by this gene. The beta subunit is the same in both the muscle and hepatic isoforms, and encoded by one gene. The gamma subunit also includes the skeletal muscle and hepatic isoforms, which are encoded by two different genes. The delta subunit is a calmodulin and can be encoded by three different genes. The gamma subunits contain the active site of the enzyme, whereas the alpha and beta subunits have regulatory functions controlled by phosphorylation. The delta subunit mediates the dependence of the enzyme on calcium concentration. Mutations in this gene cause glycogen storage disease type 9A, also known as X-linked liver glycogenosis. Alternatively spliced transcript variants have been reported, but the full-length nature of these variants has not been determined.[provided by RefSeq, Feb 2010]</p>