

## Product datasheet for **RC203462**

### **POLG2 (NM\_007215) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	POLG2 (NM_007215) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	POLG2
Synonyms:	HP55; MTDPS16; MTPOLB; PEOA4; POLB; POLG-BETA; POLGB
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC203462 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGCGCTCTCGTGTAGCCGTAGGGCTGCCATAAGGTCTGCAGGTGCCTGTTGTCTGGGTTGGGGGTC  
 GAGTAGATGCGGGCAGCCGGAGCTGTTGACGGAAAGGAGTAGCCCAAAGGAGGCATGTGAAGTCGCA  
 CGCGGAGCTCGAGGGAAACGCGCAGCACCCAGAAGCCCCGGGTCTGGAGAGGAAAGCGAGGCGCTGTTA  
 GAGATCTGTGAGAGAAGGCATTTCTAAGTGGAAGCAAGCAGCAGCTTAGCCGGGATTCTCTTCTGAGTG  
 GGTGCCACCCCGCTTCGGACCCCTGGCGTAGAGTTGCGGAAGAACCCTGGCCGAGAATGGTGGACCTC  
 GGTGGTGGTGTTCAGGGAGCAGGTATCCCGGTGGACGCCCTCCACCACAAACCAGGCCCTTTGCTACCC  
 GGGGACAGTGCCTTCAGGTTAGTTTCTGCAGAACTCTACGCGAAATCTTGAAGACAAAGAGCTGAGTA  
 AGGAACAGCTAGTAGCATTTCTGAGAAGTATTAATAACTTCTGGGAACTACGGGAGAACCTTCTTCA  
 CGGTGCCTTGAACACTATGTTAATTGCCTGGATCTGGTAAACAAGAGGCTACCTTATGGCCTTGCTCAG  
 ATTGAGTGTGTTTTATCCTGTTTTGACACTAAGCAGATACGAAATGGTGTAAAAAGTATTGGTGAGA  
 AGACTGAAGCTTCGTTAGTATGGTTTACTCTCCGAGAATTCAAACCAGTGGCTTGATTCTGGTTACG  
 TCATCGACTCCAGTGGTGGAGAAAGTTGCCATGAGTCCATCTAACTTCAGCAGCAGTACTGTCAGGAT  
 GAAGAAGGCCGAAAGGAAACAACTTTACTACAATTTCCCTGGGAAAGGAGTTAATAGAAACCTGT  
 GGAACCTAGGAGATCACGAACCTTTACACATGTATCCTGGCAATGTGTCTAAATTACATGGCCGAGATGG  
 ACGAAAAATGTGTTCCCTTGTCTCTCTGTAAATGGGACCTAGACCGAGGCATGCTGGCCTACCTC  
 TATGATCTTTCCAGCTGACAGAGAACTCCTTTACAAGAAAGAAAAATCTTCATAGAAAGTACTTAAAC  
 TTCACCCTTGTAGCCCTTAATAGGTTGCTTTGGATGTAGGAAGAGGCCACATGGAACTAAGCA  
 GGTTTGTCAAGGGCTATTTAATGAGTTACTAGAAAATGGGATTTCTGTGTGCCTGCTTATTTGGAACT  
 ATGCAGTCTCATTGGAACAACCTTTATTCGAAATGATGAAATGAGTATTCTTTCACAGTTTTGGTTA  
 CTGAAACTACTTTGGAGAATGGATTAATACATCTGAGAAGCAGAGACACCACAATGAAGGAAATGATGCA  
 TATATCCAAATAAAAGACTTTTTGATTAAGTATATATCATCAGCTAAGAATGTA

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC203462 protein sequence  
 Red=Cloning site Green=Tags(s)

MRSRVAVRACHKVCRCLLSGFGRVDAGQPELLTERSSPKGGHVKSHAELEGNGEHPAPGSGEGSEALL  
 EICQRRHFLSGSKQQLSRDSSLGCHPGFGLVGLRKNLAAEWVTSVVVFREQVFPVDALHHKPGPLLP  
 GDSAFRLVSAETLREILQDKELSKEQLVAFLENVLKTSGLRENLLHGALEHYVNCLDLVNRKLPYGLAQ  
 IGVCFHPVFDTKQIRNGVKSIGEKTEASLVWFTPPRTSNQWLDLFWLRHRLQWRRKFAMSPSNFSSSDCQD  
 EEGRKGNKLYNFPWGKELIETLWNLGDHELLHMYPGNVSKLHGRDGRKNVPCVLSVNGDLDRGMLAYL  
 YDSFQLTENSFTRKKNLHRKVLKLPCLAPIKVALDVGRGPTLELRQVCQGLFNELLENGISVWPAYLET  
 MQSSLEQLYSKYDEMSILFTVLVTETLLENGLIHLRSRDTTMKEMMHISKLDLFIKYISSAKNV

**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mk6206\\_g03.zip](https://cdn.origene.com/chromatograms/mk6206_g03.zip)

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_007215

**ORF Size:** 1455 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\\_007215.4](#)

**RefSeq Size:** 1607 bp

**RefSeq ORF:** 1458 bp

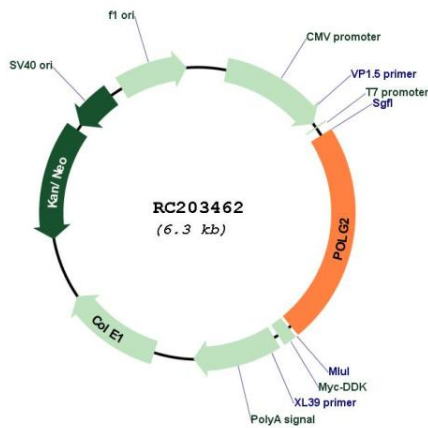
**Locus ID:** 11232

**UniProt ID:** [Q9UHN1](#)

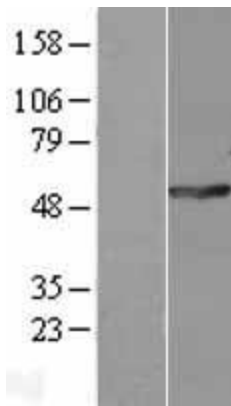
**Cytogenetics:** 17q23.3

**Domains:** HGTP\_anticodon  
**Protein Families:** Stem cell - Pluripotency  
**Protein Pathways:** Metabolic pathways  
**MW:** 54.9 kDa  
**Gene Summary:** This gene encodes the processivity subunit of the mitochondrial DNA polymerase gamma. The encoded protein forms a heterotrimer containing one catalytic subunit and two processivity subunits. This protein enhances DNA binding and promotes processive DNA synthesis. Mutations in this gene result in autosomal dominant progressive external ophthalmoplegia with mitochondrial DNA deletions.[provided by RefSeq, Sep 2009]

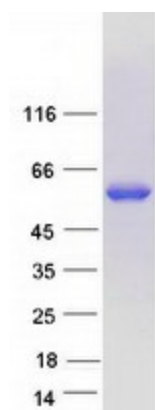
**Product images:**



Circular map for RC203462



Western blot validation of overexpression lysate (Cat# [LY416122]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC203462 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified POLG2 protein (Cat# [TP303462]). The protein was produced from HEK293T cells transfected with POLG2 cDNA clone (Cat# RC203462) using MegaTran 2.0 (Cat# [TT210002]).