

Product datasheet for **RC222113**

POLE2 (NM_002692) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	POLE2 (NM_002692) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	POLE2
Synonyms:	DPE2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC222113 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGCC**

ATGGCGCCGAGCGGCTGCGGAGCCGGGCTCTCCGCCTCAAGTTGCGGGCTTGCTGCTCCGTGGTG
 AAGCTATTAAGTACCTCACAGAAGCTCTTCAGTCTATCAGTGAATTAGAGCTTGAAGATAAACTGGAAAA
 GATAATTAATGCAGTTGAGAAGCAACCCTTGTCATCAAACATGATTGAACGATCTGTGGTGAAGCAGCA
 GTCCAGGAATGCAGTCAGTCTGTTGATGAAACTATAGAGCACGTTTTCAATATCATAGGAGCATTGATA
 TTCCACGCTTTGTGTACAATTCAGAAAGAAAAAATTTCTTCTCTGTTAATGACCAACCACCCTGCACC
 AAATTTATTTGGAACACCAAGAGATAAAGCAGAGATGTTTCGTGAGCGATATACCATTTTGCACCAGAGG
 ACCCACAGGCATGAATTATTTACTCTCCGGTGATAGGTTCTCACCTGATGAAAGCGGAAGCAAATTC
 AGCTTAAAACAATAGAAACCTTATTGGGTAGTACAACAAAATCGGAGATGCGATTGTTCTTGAATGAT
 AACGCAGTTAAAAGAGGGAAAAATTTTTCTGGAAGATCCTACTGGAACAGTCCAAGTACCTTAGTAAA
 GCTCAGTTCATAGTGGTTTATACACAGAGGCATGCTTTGTCTTAGCAGAAGTTGGTTTGAAGTCAAG
 TGTTTCATGTCAATGCCTTTGGATTTCCACCCACTGAGCCCTCTAGTACTACTAGGGCATACTATGGAAA
 TATTAATTTTTTTGGAGGTCCTTCTAATACATCTGTGAAGACTTCTGCAAAAATAAAACAGCTAGAAGAG
 GAGAATAAAGATGCTATGTTTGTGTTTTATCTGATGTTTGGTTGGACCAGGTGGAAGTATTGAAAAAC
 TTCGCATAATGTTTGTGGTTATTCACCAGCACCTCCAACCTGCTTATTTCTGTGTGGTAATTTTTTCATC
 TGCACCATATGGAAAAATCAAGTTCAAGCTTTGAAAGATTCCCTAAAACTTTGGCAGATATAATATGT
 GAATACCCAGATATTCACCAAAGTAGTCGTTTTGTGTTGTACCTGGTCCAGAGGATCCTGGATTTGGTT
 CCATCTTACCAAGGCCACCCTTGCTGAAAGCATCACTAATGAATTCAGACAAAGGGTACCATTTTCAGT
 TTTTACTACTAATCCTTGCAGAATTCAGTACTGTACACAGGAAATTAAGTCTTCCGTGAAGACTTAGTA
 AATAAAATGTGCAGAACTGCGTCCGTTTTCTAGCAGCAATTTGGCTATTCTAATCACTTTGTAAGA
 CTATCTTATCCCAAGGACATCTGACTCCCTACCTCTTTATGTCTGCCAGTGTATTGGGCATATGACTA
 TGCTTTGAGAGTGTATCCTGTGCCGATCTACTTGTGATTGCAGACAAATATGATCCTTTCACTACGACA
 AATACCGAATGCCTCTGCATAAACCTGGCTCTTTTCCAAGAAGTGGATTTTCATTCAAAGTTTTTTATC
 CTTCTAATAAGACAGTAGAAGATAGCAAACCTCAAGGCTTT

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC222113 protein sequence
 Red=Cloning site Green=Tags(s)

MAPERLRSRALSAFKLRGLLLRGEAIKYLTEALQSISELELEDKLEKIINAVEKQPLSSNMIERSVVEAA
 VQECSSQVDEIIEHVNIIGAFDIPRFVYNSERKKFLPLLMTNHPAPNLFGTPRDKAEMFRERYTILHQR
 THRHELFTPPVIGSHPDESGSKFQKTIETLLGSTTKIGDAIVLGMITQLKEGKFFLEDPTGTVQLDL SK
 AQFHSGLYTEACFVLAEGWFEDQVHVNAFGFPPEPSSTTRAYYGNINFFGGPSNTSVKTSAKLKQLEE
 ENKDAMFVFLSDVWLDQVEVLEKLRIMFAGYSPAPPTCFILCGNFSSAPYGNQVQALKDSLKTLADIIC
 EYPDIIHQSSRFVFPDPEDPGFGSILPRPPLAESITNEFRQRPVFSVFTTNPCRIQYCTQEITVFREDLV
 NKMCRCNCRFPSSNLAIPNHFKTILSQGHLTPLLYVCPVYWAYDYALRVYPVDPDLLVIADKYDPFPTT
 NTECLCINPGSFPRSGFSFKVFYPSNKTVEDSKLQGF

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6604_g06.zip

Restriction Sites:

Sgfl-MluI

Cloning Scheme:


ACCN: NM_002692

ORF Size: 1581 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_002692.4](#)

RefSeq Size: 1861 bp

RefSeq ORF: 1584 bp

Locus ID: 5427

UniProt ID: [P56282](#)

Cytogenetics: 14q21.3

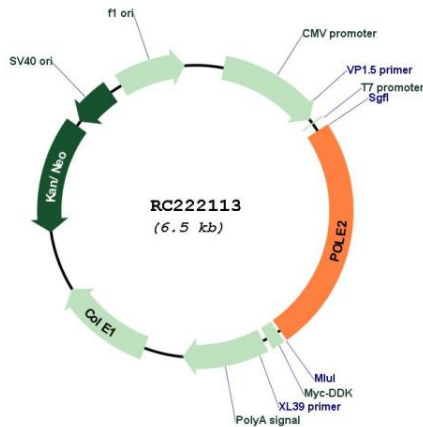
Domains: DNA_pol_E_B

Protein Pathways: Base excision repair, DNA replication, Metabolic pathways, Nucleotide excision repair, Purine metabolism, Pyrimidine metabolism

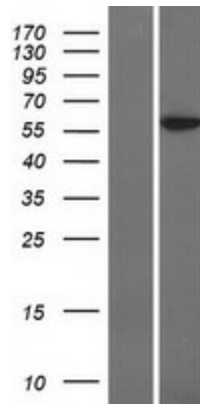
MW: 59.5 kDa

Gene Summary: DNA polymerase epsilon, which is involved in DNA repair and replication, is composed of a large catalytic subunit and a small accessory subunit. The protein encoded by this gene represents the small subunit (B). Defects in this gene have been linked to colorectal cancer and to combined immunodeficiency. [provided by RefSeq, Jan 2017]

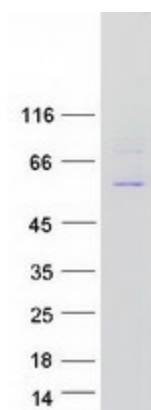
Product images:



Circular map for RC222113



Western blot validation of overexpression lysate (Cat# [LY419159]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC222113 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified POLE2 protein (Cat# [TP322113]). The protein was produced from HEK293T cells transfected with POLE2 cDNA clone (Cat# RC222113) using MegaTran 2.0 (Cat# [TT210002]).