

Product datasheet for **RC202442**

CDC45L (CDC45) (NM_003504) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CDC45L (CDC45) (NM_003504) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	CDC45L
Synonyms:	CDC45L; CDC45L2; MGORS7; PORC-PI-1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC202442 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGTTCTGTGTCGATTTCCGCAAAGAGTCTACGAGGTGGTCCAGAGCCAGAGGGTCTTCTCTTCTGTGG
 CCTCGGACGTGGATGCTCTGTGTGCGTGAAGATCCTTCAGGCCTTGTCCAGTGTGACCACGTGCAATA
 TACGCTGGTTCAGTTTCTGGGTGGCAAGAACTTGAAACTGCATTTCTTGAGCATAAAGAACAGTTTCAT
 TATTTTATTCTCATAAACTGTGGAGCTAATGTAGACCTATTGGATATTCTTCAACCTGATGAAGACACTA
 TATTTCTTGTGTGACACCCATAGGCCAGTCAATGTCGTCAATGTATACAACGATACCCAGATCAAATT
 ACTCATTAAACAAGATGATGACCTTGAAGTTCCCGCTATGAAGACATCTTCAGGGATGAAGAGGAGGAT
 GAAGAGCATTAGGAAATGACAGTGTGGGTGAGGCCTTCTGAGAAGCGCACACGGTTAGAAGAGGAGA
 TAGTGGAGCAAACCATGCGGAGGAGGCAGCGGCAGAGTGGGAGGCCGAGAAGAGACATCCTCTTTGA
 CTACGAGCAGTATGAATATCATGGGACATCGTCAGCCATGGTGTGTTTGTAGCTGGCTTGGATGCTGTCC
 AAGGACCTGAATGACATGCTGTGGTGGGCCATCGTTGGACTAACAGACCAGTGGGTGCAAGACAAGATCA
 CTCAAATGAAATACGTGACTGATGTTGGTGTCTGCAGCGCCACGTTTCCCGCCACAACCACCGGAACGA
 GGATGAGGAGAACACACTCTCCGTGGACTGCACACGGATCTCCTTTGAGTATGACCTCCGCCTGGTGTCT
 TACCAGCACTGGTCCCTCCATGACAGCCTGTGCAACACCAGCTATACCGCAGCCAGGTTCAAGCTGTGGT
 CTGTGCATGGACAGAAGCGGCTCCAGGAGTTCTTGCAGACATGGGTCTTCCCCTGAAGCAGGTGAAGCA
 GAAGTTCCAGGCCATGGACATCTCCTTGAAGGAGAATTTGCGGAAATGATTGAAGAGTCTGAAATAAA
 TTTGGGATGAAGGACATGCGCGTGCAGACTTTCAGCATTCAATTTGGGTTCAAGCACAAGTTTCTGGCCA
 GCGCAGTGGTCTTGGCCACCATGCTTTGATGGAGAGCCCCGAGAAGGATGGCTCAGGACAGATCACTT
 CATCCAGGCTCTGGACAGCCTCTCCAGGAGTAACCTGGACAAGCTGTACCATGGCCTGGAACCTCGCAAG
 AAGCAGCTGCGAGCCACCCAGCAGACCATTGCCAGCTGCCCTTGCACCAACCTCGTCATCTCCAGGGGC
 CTTTCTGTACTGCTCTCTCATGGAGGGCACTCCAGATGTGATGCTGTTCTTAGGCCGGCATCCCTAAG
 CCTGCTCAGAAACACCTGCTCAAGTCTTTGTGTGTTGACAAAGAACCAGGCGCTGCAAACTGCTGCC
 CTGGTGTGGTGTGCCCCCTGAGCATGGAGCATGGCACAGTACCCTGGTGGGCATCCCCCAGAGACCG
 ACAGCTCGGACAGGAAGAACTTTTTGGGAGGGCGTTTGAAGGCAGCGGAAAGCACCAGCTCCCGGAT
 GCTGCACAACCATTTGACCTCTCAGTAATTGAGCTGAAAGCTGAGGATCGGAGCAAGTTTCTGGACGCA
 CTATTTCCCTCTGTCC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC202442 protein sequence
 Red=Cloning site Green=Tags(s)

MFVSDFRKEFYEVVQSQRVLLFVASDVALCACKILQALFQCDHVQYTLVPVSGWQELETAFLEHKEQFH
 YFILINCGANVDLLDILQPDEDTIFFVCDTHRPVNVVNYNDTQIKLLIKQDDLEVPAYEDIFRDEEED
 EEHSGNDSGSEPKRTRLEEEIVEQTMRRRQRREWEARRRDILFDYEQYEHGTSSAMVMFELAWMLS
 KDLNDMLWVAIVGLTDQWVQDKITQMKYVTDVGVLQRHVSRRHNRNEDEENTLSVDCTRISFEYDLRLVL
 YQHWSLHDSLNTSYTAARFKLWSVHGQKRLQEFADMGLPLKQVKQKQFQAMDISLKENLREMIEESANK
 FGMKDMRVQTFSIHFGFKHKFLASDVVFATMSLME SPEKDGSGTDHFIQALDSLRSNLDKLYHGLELAK
 KQLRATQQTIASCLCNLVI SQGPFLYCSLMEGTPDVMLFSRPASLSLLSKHLLKSFVCSTKNRRCKLLP
 LVMAAPLSMEHGTVTVVGIPPETDSSDRKNFGRFAFEKAAESTSSRMLHNHFDLSVIELKAEDRSKFLDA
 LISLLS

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6277_c07.zip

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:


ACCN: NM_003504

ORF Size: 1698 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.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [NM_003504.5](#)

RefSeq Size: 1998 bp

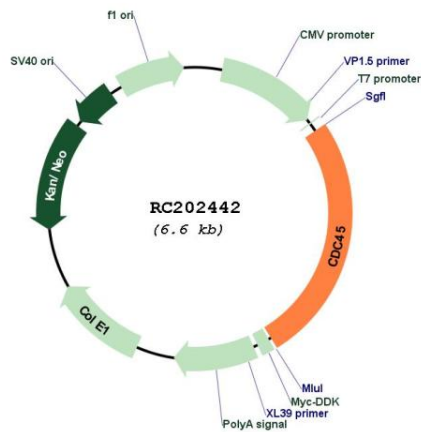
RefSeq ORF: 1701 bp

Locus ID: 8318

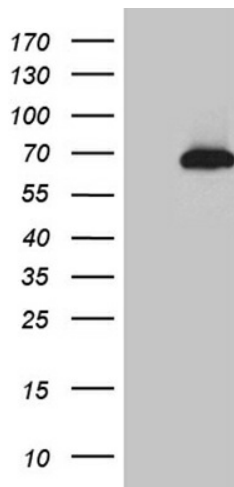
UniProt ID: [O75419](#)
Cytogenetics: 22q11.21
Protein Families: Druggable Genome, Stem cell - Pluripotency
Protein Pathways: Cell cycle
MW: 65.6 kDa

Gene Summary: The protein encoded by this gene was identified by its strong similarity with *Saccharomyces cerevisiae* Cdc45, an essential protein required to the initiation of DNA replication. Cdc45 is a member of the highly conserved multiprotein complex including Cdc6/Cdc18, the minichromosome maintenance proteins (MCMs) and DNA polymerase, which is important for early steps of DNA replication in eukaryotes. This protein has been shown to interact with MCM7 and DNA polymerase alpha. Studies of the similar gene in *Xenopus* suggested that this protein play a pivotal role in the loading of DNA polymerase alpha onto chromatin. Alternate splicing results in multiple transcript variants. [provided by RefSeq, Jul 2013]

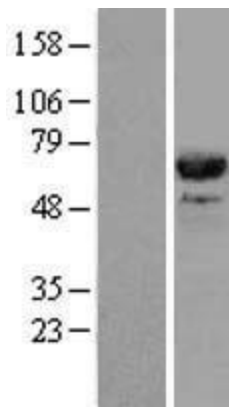
Product images:



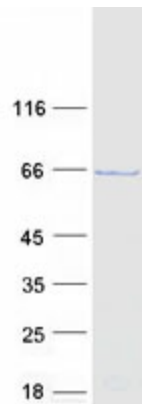
Circular map for RC202442



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY CDC45 (Cat# RC202442, 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-CDC45 (Cat# [TA811200])(1:500). Positive lysates [LY418640] (100ug) and [LC418640] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY418640]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC202442 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CDC45 protein (Cat# [TP302442]). The protein was produced from HEK293T cells transfected with CDC45 cDNA clone (Cat# RC202442) using MegaTran 2.0 (Cat# [TT210002]).