

## Product datasheet for **RR213220**

### Cdc73 (NM\_001024769) Rat Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Cdc73 (NM_001024769) Rat Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Cdc73
Synonyms:	Hrpt2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RR213220 representing NM\_001024769  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCGGACGTGCTCAGCGTCTCGCACAGTACAACATCCAGAAGAAGGAGATTGTGGTCAAGGGGGATG  
 AAGTGATCTTCGGGAGTTCTCCTGGCCCAAGAATGTGAAGACCAACTATGTAGTTTGGGGACCGGAAA  
 GGAAGGCCAACCCAGAGAATACTACACATTGGATTCTATCCTATTTCTCCTTAATAATGTGCACCTTTTCG  
 CATCCTGTTTATGTCGACGTGCAGCTACTGAAAAATTCCTGTGGTTAGAAGACCTGACAGAAAGGATC  
 TCCTTGGATATCTCAATGGGGAAGCATCAACATCAGCAAGCATAGACAGGAGTGCCTCCCTGGAAATAGG  
 TCTTCAGCGGTCTACTCAAGTCAAAGAGCTGCAGATGAAGTTTTAGCAGAAGCAAAGAAACCACGAATT  
 GAGGATGAAGAGTGTGTGCGCTTGATAAAGAGAGATTGGCAGCCGTTTGAAGGCCATAAAGAAGGAA  
 TCGTGCAGACTGAACAGATTAGGTCTTTATCTGAAGCCATGTTAGTGGAAAAATGCTGCAATCAAAGC  
 CAAAATTATGGCTAAGAAAAGATCTACTATCAAGACCGATCTAGATGATGATATAACTGCCCTTAAGCAG  
 AGGAGTTTTGTGGATGCTGAGGTAGATGTGACCAGAGATATTGTCAGCAGAGAGAGAGATATGGCGGACAA  
 GAACAACATCTTACAGAGCACAGGAAAGAATTTTTCAAAGAATATTTTCGCAATCTTCAATCAGTAAA  
 AGCCAGAGAAGAAGGGCGTGCCTCCCAACAACGGCCAGCTCCAAATGCAGCCCCTGTGGATCCTACATTG  
 CGTACAAAACAGCCTATTCAGCTGCCTACAACAGATAGACCAAGAAAGATTCAAAGGCAAGAAGAAA  
 CGGAAGGTTTTAAGATCGATACTATGGGTACCTACCATGGCATGACGCTGAAATCTGTACGGAAGGTGC  
 ATCTGCCCGTAAGACTCAAACCTCTGCAGCCAGCCTGTACCTAGACCAGTGTCTCAAGCAAGACCTCCC  
 CCAAATCAGAAGAAAGGGTCTCGAACACCCATCATTATTATTCCTGCAGTACCCTTTTAATAACCA  
 TGCTTAATGCAAAAAGACCTTCTACAGGATCTGAAATTTGCCATCAGATGAAAAGAAGAAACAGGGATG  
 TCAACGAGAAAAATGAAACACTAATACAGAGAAGAAAAGACCAGATGCAACCTGGGGGCACAGCAATTAGT  
 GTCACAGTCCCTTACAGAGTAGTAGACCAGCCTCTGAAGCTTATGCCTCAAGACTGGGATCGAGTCGTAG  
 CTGTTTTTGTACAAGTCTGCTTGGCAGTTCAAAGGTTGGCCATGGCTTCTACCTGATGGATCACCAGT  
 TGACATATTTGCAAAAATTAAGCCTTCCATCTCAAGTATGATGAAGTTCGTCTAGATCCAAATGTTCAA  
 AAATGGGATGTAAACAGTATTAGAAGTACAGTATCATAAACGTCAATTTGGATAGACCAGTTTTCTTACGTT  
 TCTGGGAAACATTGGATAGATACATGGTAAAGCACAAATCCCCTTGAGATTC

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RR213220 representing NM\_001024769  
 Red=Cloning site Green=Tags(s)

MADVLSVLRQYNIQKKEIVVKGDEIVFGEFSWPKNVKNYVVWGTGKEGQPREYYTLDSILFLLNNVHLS  
 HPVYVRRRAATENIPVRRPDRKDLLGYLNGEASTSASIDRSAPLEIGLQRSTQVKRAAEVLAEAKKPRI  
 EDEECVRLDKERLAARLEGHKEGIVQTEQIRSLSEAMLVEKIAAIKAKIMAKKRSTIKTDLDDDDITALKQ  
 RSFVDAEVDVTRDIVSRERVRTRTILQSTGKNFSKNIFAILQSVKAREEGRAPEQRPAAPVDPPTL  
 RTKQPIPAAYNRYDQERFKGKEETEGFKIDTMGTYHGMLKSVTEGASARKTQTPAAQVPRPVSQARPP  
 PNQKKSRTPIIIIPAATTSLITMLNAKDLLQDLKFVPSDEKKKQGCQRENELIQRKQMQPGGTAIS  
 VTVPYRVVDQPLKLMQDWRVAVFVQGPWFQKWPWLLPDGSPVDIFAKIKAFHLKYDEVRLDPNVQ  
 KWDVTVLELSYHKRHLDRPVFLRFWETLDRYMVKHSHLRF

**TRTRPLEQKLI**SEEDLAANDILDYKDDDDKV

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_001024769

**ORF Size:** 1593 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\\_001024769.1](#), [NP\\_001019940.1](#)

**RefSeq Size:** 2101 bp

**RefSeq ORF:** 1596 bp

**Locus ID:** 304832

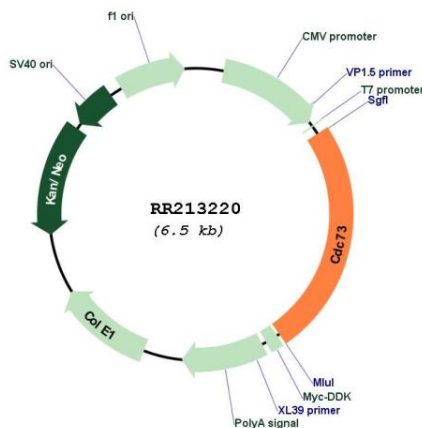
**UniProt ID:** [Q4V8C8](#)

**Cytogenetics:** 13q21

**MW:** 60.6 kDa

**Gene Summary:** Tumor suppressor probably involved in transcriptional and post-transcriptional control pathways. May be involved in cell cycle progression through the regulation of cyclin D1/PRAD1 expression. Component of the PAF1 complex (PAF1C) which has multiple functions during transcription by RNA polymerase II and is implicated in regulation of development and maintenance of embryonic stem cell pluripotency. PAF1C associates with RNA polymerase II through interaction with POLR2A CTD non-phosphorylated and 'Ser-2'- and 'Ser-5'-phosphorylated forms and is involved in transcriptional elongation, acting both independently and synergistically with TCEA1 and in cooperation with the DSIF complex and HTATSF1. PAF1C is required for transcription of Hox and Wnt target genes. PAF1C is involved in hematopoiesis and stimulates transcriptional activity of KMT2A/MLL1. PAF1C is involved in histone modifications such as ubiquitination of histone H2B and methylation on histone H3 'Lys-4' (H3K4me3). PAF1C recruits the RNF20/40 E3 ubiquitin-protein ligase complex and the E2 enzyme UBE2A or UBE2B to chromatin which mediate monoubiquitination of 'Lys-120' of histone H2B (H2BK120ub1); UB2A/B-mediated H2B ubiquitination is proposed to be coupled to transcription. PAF1C is involved in mRNA 3' end formation probably through association with cleavage and poly(A) factors. Connects PAF1C with the cleavage and polyadenylation specificity factor (CPSF) complex and the cleavage stimulation factor (CSTF) complex, and with Wnt signaling. Involved in polyadenylation of mRNA precursors (By similarity). [UniProtKB/Swiss-Prot Function]

**Product images:**



Circular map for RR213220