

Product datasheet for **RC213097**

RUNX2 (NM_004348) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	RUNX2 (NM_004348) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	RUNX2
Synonyms:	AML3; CBFA1; CCD; CCD1; OSF-2; OSF2; PEA2aA; PEBP2A1; PEBP2A2; PEBP2aA; PEBP2aA1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC213097 representing NM_004348
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGCGTATTCCTAGATCCGAGCACCAGCCGGCCTTACGCCCCCTCCAGCAGCCTGCAGCCGGCA
 AAATGAGCGACGTGAGCCGGTGGTGGCTGCGCAACAGCAGCAGCAACAGCAGCAGCAACAGCAGCA
 GCAGCAGCAGCAACAGCAGCAGCAGCAGCAGGAGGCGGGCGGGCTGCGGGCGGGCGGGCTGCG
 GCGGGCGAGCTGCAGTGCCCGGTTGCGGGCGCCCCACGACAACCGCACCATGGTGGAGATCATCGCCG
 ACCACCCGGCGAACTCGTCCGCACCGACGCCCAACTTCTGTGCTCGGTGCTGCCCTCGCACTGGCG
 CTGCAACAAGACCCTGCCGTGGCCTTCAAGTGGTAGCCCTCGGAGAGGTACCAGATGGGACTGTGGTT
 ACTGTCATGGCGGTAACGATGAAAATTATTCTGCTGAGCTCCGGAATGCCTCTGCTGTTATGAAAAAC
 AAGTAGCAAGGTTCAACGATCTGAGATTTGTGGCCGGAGTGGACGAGGCAAGAGTTTACCTTGACCAT
 AACCGTCTTCAAAATCCTCCCCAAGTAGCTACCTATCACAGAGCAATTAAGTTACAGTAGATGGACCT
 CCGGAACCCAGAAGGCACAGACAGAAGCTTGATGACTCTAAACCTAGTTTGTCTGACCGCCTCAGTG
 ATTTAGGGCGCATTCTCATCCCAGTATGAGAGTAGGTGTCCCGCCTCAGAACCCACGGCCCTCCCTGAA
 CTCTGCACCAAGTCTTTAATCCACAAGGACAGAGTCAGATTACAGACCCAGGCAGGCACAGTCTTCC
 CCGCCGTGGTCTATGACCAGTCTTACCCTCCTACCTGAGCCAGATGACGTCCCGTCCATCCACTCTA
 CCACCCGCTGTCTTCCACACGGGGCACTGGGCTTCTGCCATCACCGATGTGCCTAGGGCATTTCAGA
 TGATGACACTGCCACCTGACTTCTGCCTTGGCCTTCCACTCTCAGTAAGAAGAGCCAGGCAGGTGCT
 TCAGAAGTGGCCCTTTTTCAGACCCAGGCAGTCCCAAGCATTTCATCCCTCACTGAGAGCCGCTTCT
 CCAACCCAGCAATGCACATCCAGCCACTTTACTTACACCCCGCCAGTCACCTCAGGCATGTCCCTCGG
 TATGTCCGCCACCACTCACTACCAACCTACCTGCCACCACTACCCCGGCTTCCCAAGCCAGAGT
 GGACCTTCCAGACCAGCAGCACTCCATATCTCTACTATGGCACTTCGTCAGGATCCTATCAGTTTCCCA
 TGGTGGCGGGGGAGACCGGTCTCCTTCCAGAATGCTTCCGCATGCACCACCACCTCGAATGGCAGCAC
 GCTATTAATCAAATTTGCCTAACAGAATGATGGTGTGACGCTGATGGAAGCCACAGCAGTTCCCA
 ACTGTTTTGAATTCTAGTGGCAGAATGGATGAATCTGTTTGGCGACCATAT

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC213097 representing NM_004348
 Red=Cloning site Green=Tags(s)

MRIPVDPSTSRRFSPSSSLQPGKMSDVSFVVAQQQQQQQQQQQQQQQQQQQEQAAAAAAAAAAAA
 AAAAAVPRLRPPHDNRTMVEIIADHPAELVRTDSPNFLCSVLP SHWRCNKTLPVAFKVVALGEVDPGTVV
 TVMAGNDENYSAELRNASAVMKNQVARFNDLRFVGRSGRGKSFLLTITVFTNPPQVATYHRAIKVTVDGP
 REPRRHRQKLDSSKPSLFSDRLSDLGRIPHSMRVGVPPQNPRLNSAPSPFNPQGSQITDPRQAQSS
 PPWSYDQSYPSYLSQMTSPSIHSTTPLSSTRGTGLPAITDVPRRISDDDTATSDFLWPSTLSKKSQAGA
 SELGPFSDPRQFPSISSLTSRFSNPRMHYPATFTYTPPVTSGMSLGMSATTHYHTYLPYPGSSQSQS
 GPFQTSSTPYLYYGTSSGSYQFPMVPGDRSPSRMLPPCTTTNGSTLLNPNLPNQNDGVDADGSHSSP
 TVLNSSGRMDESVWRPY

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mg2569_a11.zip

Restriction Sites:

SgfI-MluI

Cloning Scheme:


ACCN: NM_004348

ORF Size: 1521 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_004348.3](#), [NP_004339.3](#)

RefSeq Size: 5720 bp

RefSeq ORF: 1523 bp

Locus ID: 860

Cytogenetics: 6p21.1

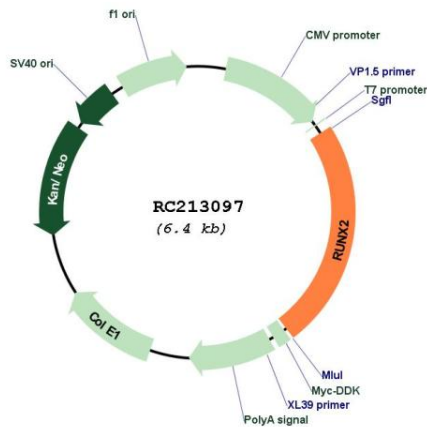
Domains: Runt

Protein Families: Druggable Genome, Transcription Factors

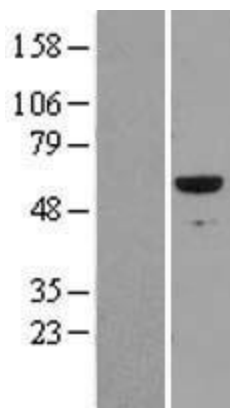
MW: 54.9 kDa

Gene Summary: This gene is a member of the RUNX family of transcription factors and encodes a nuclear protein with an Runt DNA-binding domain. This protein is essential for osteoblastic differentiation and skeletal morphogenesis and acts as a scaffold for nucleic acids and regulatory factors involved in skeletal gene expression. The protein can bind DNA both as a monomer or, with more affinity, as a subunit of a heterodimeric complex. Two regions of potential trinucleotide repeat expansions are present in the N-terminal region of the encoded protein, and these and other mutations in this gene have been associated with the bone development disorder cleidocranial dysplasia (CCD). Transcript variants that encode different protein isoforms result from the use of alternate promoters as well as alternate splicing. [provided by RefSeq, Jul 2016]

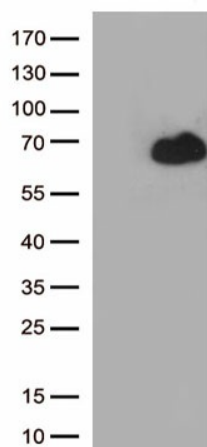
Product images:



Circular map for RC213097



Western blot validation of overexpression lysate (Cat# [LY401387]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC213097 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY RUNX2 (Cat# RC213097, 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-RUNX2 antibody (Cat# [TA813668])(1:1000)