OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

Product datasheet for KN212884

RUNX2 Human Gene Knockout Kit (CRISPR)

Product data:

Product Type: Knockout Kits (CRISPR)

Format: 2 gRNA vectors, 1 GFP-puro donor, 1 scramble control

Donor DNA: GFP-puro

Symbol: RUNX2

Locus ID: 860

Components: **KN212884G1**, RUNX2 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002), Target Sequence: CATGTCAGCAAAACTTCTTT
KN212884G2, RUNX2 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002), Target Sequence: CAAAAGAAGTTTTGCTGACA
KN212884D, donor DNA containing left and right homologous arms and GFP-puro functional cassette.
Homologous arm and GFP-puro sequences:
pUC vector backbone in gray; Left arm sequence in blue; GFP-puro in green; Right arm in violet

```
AAGGCGAGTT ACATGATCCC CCATGTTGTG CAAAAAAGCG GTTAGCTCCT TCGGTCCTCC GATCGTTGTC
AGAAGTAAGT TGGCCGCAGT GTTATCACTC ATGGTTATGG CAGCACTGCA TAATTCTCTT ACTGTCATGC
CATCCGTAAG ATGCTTTTCT GTGACTGGTG AGTACTCAAC CAAGTCATTC TGAGAATAGT GTATGCGGCG
ACCGAGTTGC TCTTGCCCGG CGTCAATACG GGATAATACC GCGCCACATA GCAGAACTTT AAAAGTGCTC
ATCATTGGAA AACGTTCTTC GGGGCGAAAA CTCTCAAGGA TCTTACCGCT GTTGAGATCC AGTTCGATGT
AACCCACTCG TGCACCCAAC TGATCTTCAG CATCTTTTAC TTTCACCAGC GTTTCTGGGT GAGCAAAAAC
AGGAAGGCAA AATGCCGCAA AAAAGGGAAT AAGGGCGACA CGGAAATGTT GAATACTCAT ACTCTTCCTT
TTTCAATATT ATTGAAGCAT TTATCAGGGT TATTGTCTCA TGAGCGGATA CATATTTGAA TGTATTTAGA
AAAATAAACA AATAGGGGTT CCGCGCACAT TTCCCCGAAA AGTGCCACCT GACGTCTAAG AAACCATTAT
TATCATGACA TTAACCTATA AAAATAGGCG TATCACGAGG CCCTTTCGGG TCGCGCGTTT CGGTGATGAC
GGTGAAAACC TCTGACACAT GCAGCTCCCG TTGACGGTCA CAGCTTGTCT GTAAGCGGAT GCCGGGAGCA
GACAAGCCCG TCAGGGCGCG TCAGCGGGTG TTGGCGGGTG TCGGGGCTGG CTTAACTATG CGGCATCAGA
GCAGATTGTA CTGAGAGTGC ACCATAAAAT TGTAAACGTT AATATTTTGT TAAAATTCGC GTTAAATTTT
TGTTAAATCA GCTCATTTTT TAACCAATAG GCCGAAATCG GCAAAATCCC TTATAAATCA AAAGAATAGC
CCGAGATAGG GTTGAGTGTT GTTCCAGTTT GGAACAAGAG TCCACTATTA AAGAACGTGG ACTCCAACGT
CAAAGGGCGA AAAACCGTCT ATCAGGGCGA TGGCCCACTA CGTGAACCAT CACCCAAATC AAGTTTTTTG
GGGTCGAGGT GCCGTAAAGC ACTAAATCGG AACCCTAAAG GGAGCCCCCG ATTTAGAGCT TGACGGGGAA
AGCCGGCGAA CGTGGCGAGA AAGGAAGGGA AGAAAGCGAA AGGAGCGGGC GCTAGGGCGC TGGCAAGTGT
AGCGGTCACG CTGCGCGTAA CCACCACACC CGCCGCGCTT AATGCGCCGC TACAGGGCGC GTACTATGGT
TGCTTTGACG TATGCGGTGT GAAATACCGC ACAGATGCGT AAGGAGAAAA TACCGCATCA GGCGCCATTC
GCCATTCAGG CTGCGCAACT GTTGGGAAGG GCGATCGGTG CGGGCCTCTT CGCTATTACG CCAGCTGGCG
AAAGGGGGAT GTGCTGCAAG GCGATTAAGT TGGGTAACGC CAGGGTTTTC CCAGTCACGA CGTTGTAAAA
CGACGGCCAG TGAATTGGAG GCTACAGTCA GTGGAGAGGA CTTTCACAGG CTGTCGCCGT GCTCATTTGA
```

View online »

TAACTGCCCG TTATTCATGC GACACAGGAA AGGCCTTACC ACAAGCCTTT TGTGAGAGAA AGAGAGAGAG
AGAAAGAGCA AGGGGGAAAA GCCACAGTGG TAGGCAGTCC CACTTTACTT AAGAGTACTG TGAGGTCACA
AACCACATGA TTCTGCCTCT CCAGTAATAG TGCTTGCAAA AAAAAGGAGT TTTAAAGCTT TTGCTTTTTT
GGATTGTGTG AATGCTTCAT TCGCCTCACA AACAACCACA GAACCACAAG TGCGGTGCAA ACTTTCTCCA
GGAGGACAGC AAGAAGTCTC TGGTTTTTAA ATGGTTAATC TCCGCAGGTC ACTACCAGCC ACCGAGACCA
ACAGAGTCAG TGAGTGCTCT CTAACCACAG TCTATGCAGT AATAGTAGGT CCTTCAAATA TTTGCTCATT
CTCTTTTTGT TTTGTTTCTT TGCTTTTCAC ATGTTACCAG CTACATAATT TCTTGACAGA AAAAAATAAA
TATAAAGTCT ATGTACTCCA GGCATACTGT AAAACTAAAA CAAGGTTTGG GTATGGTTTG TATTTTCAGT
TTAAGGCTGC AAGCAGTATT TACAACAGAG GGTACAAGTT CTATCTGAAA AAAAAAGGAG GGACTACTAG
CATGGAGAGC GACGAGAGCG GCCTGCCCGC CATGGAGATC GAGTGCCGCA TCACCGGCAC CCTGAACGGC
GTGGAGTTCG AGCTGGTGGG CGGCGGAGAG GGCACCCCCG AGCAGGGCCG CATGACCAAC AAGATGAAGA
GCACCAAAGG CGCCCTGACC TTCAGCCCCT ACCTGCTGAG CCACGTGATG GGCTACGGCT TCTACCACTT
CGGCACCTAC CCCAGCGGCT ACGAGAACCC CTTCCTGCAC GCCATCAACA ACGGCGGCTA CACCAACACC
CGCATCGAGA AGTACGAGGA CGGCGGCGTG CTGCACGTGA GCTTCAGCTA CCGCTACGAG GCCGGCCGCG
TGATCGGCGA CTTCAAGGTG ATGGGCACCG GCTTCCCCGA GGACAGCGTG ATCTTCACCG ACAAGATCAT
CCGCAGCAAC GCCACCGTGG AGCACCTGCA CCCCATGGGC GATAACGATC TGGATGGCAG CTTCACCCGC
ACCTTCAGCC TGCGCGACGG CGGCTACTAC AGCTCCGTGG TGGACAGCCA CATGCACTTC AAGAGCGCCA
TCCACCCCAG CATCCTGCAG AACGGGGGCC CCATGTTCGC CTTCCGCCGC GTGGAGGAGG ATCACAGCAA
CACCGAGCTG GGCATCGTGG AGTACCAGCA CGCCTTCAAG ACCCCGGATG CAGATGCCGG TGAAGAAAGA
GTTTAAGAAT TCCGATCATA TTCAATAACC CTTAATATAA CTTCGTATAA TGTATGCTAT ACGAAGTTAT
TAGGTCTGAA GAGGAGTTTA CGTCCAGCCA AGCTTAGGAT CTCGACCTCG AAATTCTACC GGGTAGGGGA
GGCGCTTTTC CCAAGGCAGT CTGGAGCATG CGCTTTAGCA GCCCCGCTGG GCACTTGGCG CTACACAAGT
GGCCTCTGGC CTCGCACACA TTCCACATCC ACCGGTAGGC GCCAACCGAC TCCGTTCTTT GGTGGCCCCT
TCGCGCCACC TTCTACTCCT CCCCTAGTCA GGAAGTTCCC CCCCGCCCCG CAGCTCGCGT CGTGCAGGAC
GTGACAAATG GAAGTAGCAC GTCTCACTAG TCTCGTGCAG ATGGACAGCA CCGCTGAGCA ATGGAAGCGG
GTAGGCCTTT GGGGCAGCGG CCAATAGCAG CTTTGCTCCT TCGCTTTCTG GGCTCAGAGG CTGGGAAGGG
GTGGGTCCGG GGGCGGGCTC AGGGGCGGGC TCAGGGGCGG GGCGGGCGCC CGAAGGTCCT CCGGAGGCCC
GGCATTCTGC ACGCTTCAAA AGCGCACGTC TGCCGCGCTG TTCTCCTCTT CCTCATCTCC GGGCCTTTCG
ACCTGCATCC ATCTAGATCT CGAGCAGCTG AAGCTTACCA TGACCGAGTA CAAGCCCACG GTGCGCCTCG
CCACCCGCGA CGACGTCCCC AGGGCCGTAC GCACCCTCGC CGCCGCGTTC GCCGACTACC CCGCCACGCG
CCACACCGTC GATCCGGACC GCCACATCGA GCGGGTCACC GAGCTGCAAG AACTCTTCCT CACGCGCGTC
GGGCTCGACA TCGGCAAGGT GTGGGTCGCG GACGACGGCG CCGCGGTGGC GGTCTGGACC ACGCCGGAGA
GCGTCGAAGC GGGGGCGGTG TTCGCCGAGA TCGGCCCGCG CATGGCCGAG TTGAGCGGTT CCCGGCTGGC
CGCGCAGCAA CAGATGGAAG GCCTCCTGGC GCCGCACCGG CCCAAGGAGC CCGCGTGGTT CCTGGCCACC
GTCGGCGTCT CGCCCGACCA CCAGGGCAAG GGTCTGGGCA GCGCCGTCGT GCTCCCCGGA GTGGAGGCGG
CCGAGCGCGC CGGGGTGCCC GCCTTCCTGG AGACCTCCGC GCCCCACAAC CTCCCCTTCT ACGAGCGGCT
CGGCTTCACC GTCACCGCCG ACGTCGAGGT GCCCGAAGGA CCGCGCACCT GGTGCATGAC CCGCAAGCCC
GGTGCCTGAC GCCCGCCCCA CGACCCGCAG CGCCCGACCG AAAGGAGCGC ACGACCCCAT GCATCGATGA
TATCAGATCC CCGGGATGCA GAAATTGATG ATCTATTAAA CAATAAAGAT GTCCACTAAA ATGGAAGTTT
TTCCTGTCAT ACTTTGTTAA GAAGGGTGAG AACAGAGTAC CTACATTTTG AATGGAAGGA TTGGAGCTAC
GGGGGTGGGG GTGGGGTGGG ATTAGATAAA TGCCTGCTCT TTACTGAAGG CTCTTTACTA TTGCTTTATG
ATAATGTTTC ATAGTTGGAT ATCATAATTT AAACAAGCAA AACCAAATTA AGGGCCAGCT CATTCCTCCC
ACTCATGATC TATAGATCTA TAGATCTCTC GTGGGATCAT TGTTTTTCTC TTGATTCCCA CTTTGTGGTT
CTAAGTACTG TGGTTTCCAA ATGTGTCAGT TTCATAGCCT GAAGAACGAG ATCAGCAGCC TCTGTTCCAC
ATACACTTCA TTCTCAGTAT TGTTTTGCCA AGTTCTAATT CCATCAGAAG CTGGTCGAGA TCCGGAACCC
TTAATATAAC TTCGTATAAT GTATGCTATA CGAAGTTATT AGGTCCCTCG AAGAGGTTCA CTAGGCGCGC
CCTGCTAGCT TTTCCAAATA GCATATTAAA GATCCTAATT ATGCTATCTT GTTGCATTAA GAATTGAAAA
ATGAAATTTC TGTATATATT TGCATTTGGT ATCTGTAATG TATCTAATTT TCAAAGTAAT GACTTGAAAT
ATACAAAATT AAATTATCTC ACATTGATCA AAATGTTTTC TAGGTTATAG AGGTGAGGAT ATGAAAACAG
TAAAAGAAAC AGTTTAATAC TCTCATTAAC CCTCACCAGA AGAAAAGTCA GATCCTAAAT TAATCAAAGC
ATTATAAATT ATTGACTCCG GCAGCTCCCA ATATTTGAGC AAACTTCAAA AAGGAAGCAA TTTTACAAAA
TAACAGACCA CAGAATTATC TCAACATTAT GGTCTACCAT GTATAACACA GAAATAAACC TGTAGTACAG

TTAACATTTT AACCAGCTCA ACTAAAAGAA ATCTACTTAT AAATTCAAAC TGTATCCTAT CTAAATAAGT
TTGTTTCTAA ACAACTTTAT ATAAGTATAC ATTCAGCTGA AATAAAATTA TGATAAGCAC ATCACAGCCA
TTTTTAAAAG ATCTTTATAG TTGCCCAGGA TATTAAAAAG TCACTCTCGC CGGTGGACTT TAGATCAGAA
GGGATCTTGC TGCCGCCCGA AAGAGGAAGG GCTGGAAGAG GAAGGAGCTT GGCGTAATCA TGGTCATAGC
TGTTTCCTGT GTGAAATTGT TATCCGCTCA CAATTCCACA CAACATACGA GCCGGAAGCA TAAAGTGTAA
AGCCTGGGGT GCCTAATGAG TGAGCTAACT CACATTAATT GCGTTGCGCT CACTGCCCGC TTTCCAGTCG
GGAAACCTGT CGTGCCAGCT GCATTAATGA ATCGGCCAAC GCGCGGGGAG AGGCGGTTTG CGTATTGGGC
GCTCTTCCGC TTCCTCGCTC ACTGACTCGC TGCGCTCGGT CGTTCGGCTG CGGCGAGCGG TATCAGCTCA
CTCAAAGGCG GTAATACGGT TATCCACAGA ATCAGGGGAT AACGCAGGAA AGAACATGTG AGCAAAAGGC
CAGCAAAAGG CCAGGAACCG TAAAAAGGCC GCGTTGCTGG CGTTTTTCCA TAGGCTCCGC CCCCCTGACG
AGCATCACAA AAATCGACGC TCAAGTCAGA GGTGGCGAAA CCCGACAGGA CTATAAAGAT ACCAGGCGTT
TCCCCCTGGA AGCTCCCTCG TGCGCTCTCC TGTTCCGACC CTGCCGCTTA CCGGATACCT GTCCGCCTTT
CTCCCTTCGG GAAGCGTGGC GCTTTCTCAT AGCTCACGCT GTAGGTATCT CAGTTCGGTG TAGGTCGTTC
GCTCCAAGCT GGGCTGTGTG CACGAACCCC CCGTTCAGCC CGACCGCTGC GCCTTATCCG GTAACTATCG
TCTTGAGTCC AACCCGGTAA GACACGACTT ATCGCCACTG GCAGCAGCCA CTGGTAACAG GATTAGCAGA
GCGAGGTATG TAGGCGGTGC TACAGAGTTC TTGAAGTGGT GGCCTAACTA CGGCTACACT AGAAGAACAG
TATTTGGTAT CTGCGCTCTG CTGAAGCCAG TTACCTTCGG AAAAAGAGTT GGTAGCTCTT GATCCGGCAA
ACAAACCACC GCTGGTAGCG GTGGTTTTTT TGTTTGCAAG CAGCAGATTA CGCGCAGAAA AAAAGGATCT
CAAGAAGATC CTTTGATCTT TTCTACGGGG TCTGACGCTC AGTGGAACGA AAACTCACGT TAAGGGATTT
TGGTCATGAG ATTATCAAAA AGGATCTTCA CCTAGATCCT TTTAAATTAA AAATGAAGTT TTAAATCAAT
CTAAAGTATA TATGAGTAAA CTTGGTCTGA CAGTTACCAA TGCTTAATCA GTGAGGCACC TATCTCAGCG
ATCTGTCTAT TTCGTTCATC CATAGTTGCC TGACTCCCCG TCGTGTAGAT AACTACGATA CGGGAGGGCT
TACCATCTGG CCCCAGTGCT GCAATGATAC CGCGAGAACC ACGCTCACCG GCTCCAGATT TATCAGCAAT
AAACCAGCCA GCCGGAAGGG CCGAGCGCAG AAGTGGTCCT GCAACTTTAT CCGCCTCCAT CCAGTCTATT
AATTGTTGCC GGGAAGCTAG AGTAAGTAGT TCGCCAGTTA ATAGTTTGCG CAACGTTGTT GCCATTGCTA
CAGGCATCGT GGTGTCACGC TCGTCGTTTG GTATGGCTTC ATTCAGCTCC GGTTCCCAAC GATC

GE100003, scramble sequence in pCas-Guide vector

Disclaimer: These products are manufactured and supplied by OriGene under license from ERS. The kit is designed based on the best knowledge of CRISPR technology. The system has been functionally validated for knocking-in the cassette downstream the native promoter. The efficiency of the knock-out varies due to the nature of the biology and the complexity of the experimental process.

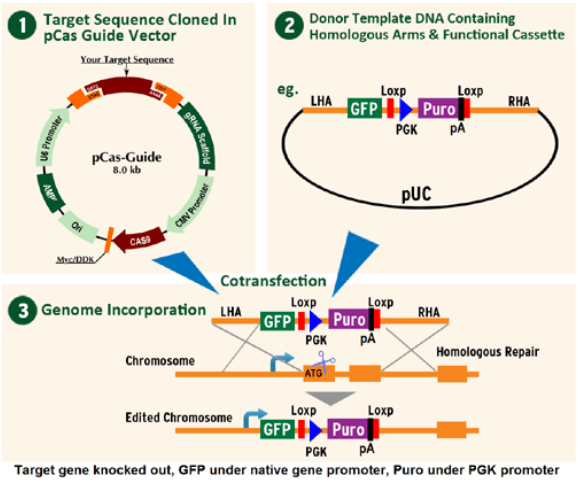
RefSeq: NM_001015051, NM_001024630, NM_001278478, NM_004348, NR_103532, NR_103533, NM_001369405

UniProt ID: Q13950

Synonyms: AML3; CBF-alpha-1; CBFA1; CCD; CCD1; CLCD; OSF-2; OSF2; PEA2aA; PEBP2aA

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:



Target gene knocked out, GFP under native gene promoter, Puro under PGK promoter