Runt-Related Transcription Factor 2 (RUNX2) Human Recombinant Protein

PRODUCT OVERVIEW

Product Name	Runt-related transcription factor 2 (RUNX2), Recombinant Protein
Full Product Name	Recombinant Human Runt-related transcription factor 2 (RUNX2)
Product Gene Name	RUNX2 recombinant protein
Product Synonym Gene Name	RUNX2
Sequence	MASNSLFSTV TPCQQNFFWD PSTSRRFSPP SSSLQPGKMS DVSPVVAAQQ QQQQQQQQQQ QQQQQQQQQQ QEAAAAAAAA AAAAAAAAAV PRLRPPHDNR TMVEIIADHP AELVRTDSPN FLCSVLPSHW RCNKTLPVAF KVVALGEVPD GTVVTVMAGN DENYSAELRN ASAVMKNQVA RFNDLRFVGR SGRGKSFTLT ITVFTNPPQV ATYHRAIKVT VDGPREPRRH RQKLDDSKPS LFSDRLSDLG RIPHPSMRVG VPPQNPRPSL NSAPSPFNPQ GQSQITDPRQ AQSSPPWSYD QSYPSYLSQM TSPSIHSTTP LSSTRGTGLP AITDVPRRIS DDDTATSDFC LWPSTLSKKS QAGASELGPF SDPRQFPSIS SLTESRFSNP RMHYPATFTY TPPVTSGMSL GMSATTHYHT YLPPPYPGSS QSQSGPFQTS STPYLYYGTS SGSYQFPMVP GGDRSPSRML PPCTTTSNGS TLLNPNLPNQ NDGVDADGSH SSSPTVLNSS GRMDESVWRP Y
Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE. (lot specific)
Preparation and Storage	Store at -20 degrees C. For long-term storage, store at -20 degrees C or -80 degrees C. Store working aliquots at 4 degrees C for up to one week. Repeated freezing and thawing is not recommended.
Molecular Weight	54,249 Da
Sequence Positions	1-521, Full length protein
Tag Information	This protein contains an N-terminal tag and may also contain a C-terminal tag. Tag types are determined by various factors including tag-protein stability, please inquire for tag information.
Sterility	Sterile filter available upon request.
Endotoxin	Low endotoxin available upon request.
OMIM	119600
3D Structure	ModBase 3D Structure for Q13950
Species	Human
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for RUNX2 recombinant protein	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. 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.
Other Notes	Small volumes of RUNX2 recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for RUNX2 purchase	MBS1339164 is a recombinant protein targeting RUNX2. Also known as Recombinant Human Runt-related transcription factor 2 (RUNX2). Host: E Coli or Yeast or Baculovirus or Mammalian Cell.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for RUNX2. It may not necessarily be applicable to this product.

NCBI GI #	226442791
NCBI GeneID	860
NCBI Accession #	NP_001015051.3
UniProt Primary Accession #	Q13950
UniProt Secondary Accession #	O14614; O14615; O95181
UniProt Related Accession #	Q13950
GenBank Nucleotide #	NM_001015051.3
NCBI Official Full Name	runt-related transcription factor 2 isoform b
NCBI Official Synonym Full Names	runt related transcription factor 2
NCBI Official Symbol	RUNX2
NCBI Official Synonym Symbols	CCD; AML3; CCD1; CLCD; OSF2; CBFA1; OSF-2; PEA2aA; PEBP2aA; CBF-alpha-1
UniProt Protein Name	Runt-related transcription factor 2
UniProt Synonym Protein Names	Acute myeloid leukemia 3 protein; Core-binding factor subunit alpha-1; CBF-alpha-1; Oncogene AML-3; Osteoblast-specific transcription factor 2; OSF-2; Polyomavirus enhancer-binding protein 2 alpha A subunit; PEA2-alpha A; PEBP2-alpha A; SL3-3 enhancer factor 1 alpha A subunit; SL3/AKV core-binding factor alpha A subunit
Protein Family	Runt-related transcription factor
UniProt Gene Name	RUNX2
UniProt Synonym Gene Names	AML3; CBFA1; OSF2; PEBP2A; CBF-alpha-1; OSF-2; PEA2-alpha A; PEBP2-alpha A
NCBI Protein Information	runt-related transcription factor 2
NCBI Summary for RUNX2	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]
UniProt Comments for RUNX2	Transcription factor involved in osteoblastic differentiation and skeletal morphogenesis (PubMed:28505335, PubMed:28738062, PubMed:28703881). Essential for the maturation of osteoblasts and both intramembranous and endochondral ossification. CBF binds to the core site, 5'-PYGPYGGT-3', of a number of enhancers and promoters, including murine leukemia virus, polyomavirus enhancer, T-cell receptor enhancers, osteocalcin, osteopontin, bone sialoprotein, alpha 1(I) collagen, LCK, IL-3 and GM-CSF promoters. In osteoblasts, supports transcription activation: synergizes with SPEN/MINT to enhance FGFR2-mediated activation of the osteocalcin FGF-responsive element (OCFRE) (). Inhibits KAT6B-dependent transcriptional activation.
Research Articles on RUNX2	**1.** Report osteoblast-like transformation of epithelial breast cancer cells that have undergone epithelial-mesenchymal transition followed by bone morphogenetic protein-2 stimulation. RUNX2 functions as a master mediator of this process.
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