10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.622.0609

Mouse Runx1 Blocking Peptide (C-term)

Synthetic peptide
Catalog # BP21256b

Specification

Mouse Runx1 Blocking Peptide (C-term) - Product Information

Primary Accession Q03347

Mouse Runx1 Blocking Peptide (C-term) - Additional Information

Other Names
Runt-related transcription factor 1, Acute myeloid leukemia 1 protein, Core-binding factor subunit alpha-2, CBF-alpha-2, Oncogene AML-1, Polyomavirus enhancer-binding protein 2 alpha B subunit, PEA2-alpha B, PEBP2-alpha B, SL3-3 enhancer factor 1 alpha B subunit, SL3/AKV core-binding factor alpha B subunit, Runx1, Aml1, Cbfa2, Pebp2ab

Target/Specificity
The synthetic peptide sequence is selected from aa 305-319 of HUMAN Runx1

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Mouse Runx1 Blocking Peptide (C-term) - Protein Information

Name Runx1

Synonyms Aml1, Cbfa2, Pebp2ab

Mouse Runx1 Blocking Peptide (C-term) - Background

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, LCK, IL-3 and GM-CSF promoters. Essential for the development of normal hematopoiesis. Isoform 4 shows higher binding activities for target genes and binds TCR-beta-E2 and RAG-1 target site with threefold higher affinity than other isoforms. It is less effective in the context of neutrophil terminal differentiation. Acts synergistically with ELF4 to transactivate the IL-3 promoter and with ELF2 to transactivate the BLK promoter. Inhibits KAT6B- dependent transcriptional activation (By similarity).

Mouse Runx1 Blocking Peptide (C-term) - References

Bae S.-C.,et al.Oncogene 8:809-814(1993).
Bae S.-C.,et al.Mol. Cell. Biol. 14:3242-3252(1994).
Calabi F.,et al.Submitted (APR-1996) to the EMBL/GenBank/DDBJ databases.
Tsuji K.,et al.Biochem. Biophys. Res. Commun. 274:171-176(2000).
Fujita Y.,et al.Biochem. Biophys. Res. Commun. 281:1248-1255(2001).

Function

Forms the heterodimeric complex core-binding factor (CBF) with CBFB. RUNX members modulate the transcription of their target genes through recognizing the core consensus binding sequence 5'-TGTGGT-3', or very rarely, 5'-TGCGGT-3', within their regulatory regions via their runt domain, while CBFB is a non-DNA-binding regulatory subunit that allosterically enhances the sequence-specific DNA-binding capacity of RUNX. The heterodimers bind to the core site of a number of enhancers and promoters, including murine leukemia virus, polyomavirus enhancer, T-cell receptor enhancers, LCK, IL3 and GM-CSF promoters (Probable). Essential for the development of normal hematopoiesis. Acts synergistically with ELF4 to transactivate the IL-3 promoter and with ELF2 to transactivate the BLK promoter. Inhibits KAT6B-dependent transcriptional activation (By similarity). Involved in lineage commitment of immature T cell precursors. CBF complexes repress ZBTB7B transcription factor during cytotoxic (CD8+) T cell development. They bind to RUNX-binding sequence within the ZBTB7B locus acting as transcriptional silencer and allowing for cytotoxic T cell differentiation (PubMed:18258917). CBF complexes binding to the transcriptional silencer is essential for recruitment of nuclear protein complexes that catalyze epigenetic modifications to establish epigenetic ZBTB7B silencing (PubMed:23481257). Controls the anergy and suppressive function of regulatory T-cells (Treg) by associating with FOXP3. Activates the expression of IL2 and IFNG and down-regulates the expression of TNFRSF18, IL2RA and CTLA4, in conventional T-cells (PubMed:17377532). Positively regulates the expression of RORC in T- helper 17 cells (PubMed:21151104).

Cellular Location

Nucleus.

Tissue Location
Isoform 4 is expressed at high levels in thymus, spleen and T-cell lines and at lower levels in myeloid cell lines and nonhematopoietic cells. Isoform 5 is expressed ubiquitously in lumbar vertebrae, brain, kidney, heart, muscle, ovary and osteoblast-like cell line MC3T3-E1

Mouse Runx1 Blocking Peptide (C-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides