

Recombinant Mouse CEBPA Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51470

Size: 10ug, 100ug

Protein Name: CCAAT/enhancer-binding protein alpha (C/EBP alpha)

Synonym: Cebpa, Cebp

UniProt ID: P53566

UniProt Link: www.uniprot.org/uniprotkb/P53566/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 359 AA

Molecular Weight: 37 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MESADFYEEVPRPPMSSHLQSPPHAPSNAAFGFPRGAGPAPPPAPPAAPEPLGGICEHETSIDISAY
IDPAAFNDEFLADLFQHSRQQEKAKAAAGPAGGGGDFDYPGAPAGPGGAVMSAGAHGPPPGYGC
AAAGYLDGRLEPLYERVGAPALRPLVIKQEPREDEAKQLALAGLFPYQPPPPPPPPHASPAPHLA
APHLQFQIAHCGQTTMHLQPGHPTPPPTPVSPHAAPALGAAGLPGPGSALKGLAGAHDPDLRTGG
GGGGSGAGAGKAKKSVDKNSNEYRVRERNNIAVRKSRDKAKQRNVETQQKVLELTSDNDRLRKR
VEQLSRELDTLRGIFRQLPESSLVKAMGNCA

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant CCAAT/enhancer-binding protein alpha (C/EBP alpha) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Transcription factor that coordinates proliferation arrest and the differentiation of myeloid progenitors, adipocytes, hepatocytes, and cells of the lung and the placenta (PubMed:15107404, PubMed:15589173, PubMed:36228616, PubMed:8415748). Binds directly to the consensus DNA sequence 5'-T[TG]NNGNAA[TG]-3' acting as an activator on distinct target genes. During early embryogenesis, plays essential and redundant functions with CEBPB (PubMed:15509779). Essential for the transition from common myeloid progenitors (CMP) to granulocyte/monocyte progenitors (GMP) (PubMed:24367003). Critical for the proper development of the liver and the lung (PubMed:8798745). Necessary for terminal adipocyte differentiation, is required for postnatal maintenance of systemic energy homeostasis and lipid storage (PubMed:1935900, PubMed:8090719). To regulate these different processes at the proper moment and tissue, interplays with other transcription factors and modulators. Down-regulates the expression of genes that maintain cells in an undifferentiated and proliferative state through E2F1 repression, which is critical for its ability to induce adipocyte and granulocyte terminal differentiation. Reciprocally E2F1 blocks adipocyte differentiation by binding to specific promoters and repressing CEBPA binding to its target gene promoters (PubMed:11672531). Proliferation arrest also depends on a functional binding to SWI/SNF complex (PubMed:14660596). In liver, regulates gluconeogenesis and lipogenesis through different mechanisms. To regulate gluconeogenesis, functionally cooperates with FOXO1 binding to IRE-controlled promoters and regulating the expression of target genes such as PCK1 or G6PC1 (PubMed:17627282). To modulate lipogenesis, interacts and transcriptionally synergizes with SREBF1 in promoter activation of specific lipogenic target genes such as ACAS2 (PubMed:17290224). In adipose tissue, seems to act as FOXO1 coactivator accessing to ADIPOQ promoter through FOXO1 binding sites (PubMed:17090532).; [Isoform 3]: Can act as dominant-negative. Binds DNA and have transactivation activity, even if much less efficiently than isoform 2. Does not inhibit cell proliferation.; [Isoform 4]: Directly and specifically enhances ribosomal DNA transcription interacting with RNA polymerase I-specific cofactors and inducing histone acetylation.

Subcellular Localization: Nucleus .; [Isoform 4]: Nucleus, nucleolus .

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.