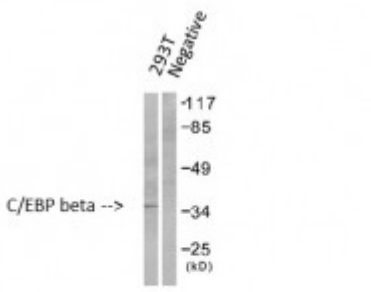
Anti-C/EBP beta antibody



Western Blot (WB) analysis of 1. 293T 2. Negative control using C/EBP beta Polyclonal Antibody. (STJ91918)

Description	C/EBP beta is a protein encoded by the CEBPB gene which is approximately 36,1 kDa. C/EBP beta is localised to the nucleus and cytoplasm. It is involved in IL-17 family signalling pathways, cellular senescence, human embryonic stem cell pluripotency and the IL-2 pathway. It functions as a homodimer but can also form heterodimers with enhancer-binding proteins alpha, delta, and gamma. Activity of this protein is important in the regulation of genes involved in immune and inflammatory responses, among other processes. C/EBP beta is expressed at low levels in the lung, kidney and spleen. Mutations in the CEBPB gene may result in myxoid liposarcoma and leukaemia. STJ91918 was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen. This polyclonal antibody detects endogenous levels of C/EBP beta protein.

Model	STJ91918
Host	Rabbit
Reactivity	Human, Mouse, Rat
Applications	ELISA, IHC, WB
Immunogen	Synthesized peptide derived from human C/EBP beta around the non-phosphorylation site of T235.
Immunogen Region	180-260 aa
Gene ID	1051
Gene Symbol	CEBPB
Dilution range	WB 1:500-1:2000IHC 1:100-1:300ELISA 1:10000

Specificity	C/EBP beta Polyclonal Antibody detects endogenous levels of C/EBP beta protein.
Tissue Specificity	Expressed at low levels in the lung, kidney and spleen.
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Note	For Research Use Only (RUO).
Protein Name	CCAAT/enhancer-binding protein beta C/EBP beta Liver activator protein LAP Liver-enriched inhibitory protein LIP Nuclear factor NF-IL6 Transcription factor 5 TCF-5
Molecular Weight	36 kDa
Clonality	Polyclonal
Conjugation	Unconjugated
Isotype	IgG
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Concentration	1 mg/ml
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:1834OMIM:189965
Alternative Names	CCAAT/enhancer-binding protein beta C/EBP beta Liver activator protein LAP Liver-enriched inhibitory protein LIP Nuclear factor NF-IL6 Transcription factor 5 TCF-5
Function	Important transcription factor regulating the expression of genes involved in immune and inflammatory responses . Plays also a significant role in adipogenesis, as well as in the gluconeogenic pathway, liver regeneration, and hematopoiesis. The consensus recognition site is 5'-T[TG]NNGNAA[TG]-3'. Its functional capacity is governed by protein interactions and post-translational protein modifications. During early embryogenesis, plays essential and redundant functions with CEBPA. Has a promitotic effect on many cell types such as hepatocytes and adipocytes but has an antiproliferative effect on T-cells by repressing MYC expression, facilitating differentiation along the T-helper 2 lineage. Binds to regulatory regions of several acute-phase and cytokines genes and plays a role in the regulation of acute-phase reaction and inflammation. Plays also a role in intracellular bacteria killing . During adipogenesis, is rapidly expressed and, after activation by phosphorylation, induces CEBPA and PPARG, which turn on the series of adipocyte genes that give rise to the adipocyte phenotype. The delayed transactivation of the CEBPA and PPARG genes by CEBPB appears necessary to allow mitotic clonal expansion and thereby progression of terminal differentiation . Essential for female reproduction because of a critical role in ovarian follicle development . Restricts osteoclastogenesis . Isoform 2: Essential for gene expression induction in activated macrophages. Plays a major role in immune responses such as CD4(+) T-cell response, granuloma formation and endotoxin shock. Not essential for intracellular bacteria killing. Isoform 3: Acts as a dominant negative through heterodimerization with isoform 2 . Promotes osteoblast differentiation and osteoclastogenesis .

Sequence and Domain Family	the 9aaTAD motif is a transactivation domain present in a large number of yeast and animal transcription factors.
Cellular Localization	Nucleus Cytoplasm. Translocates to the nucleus when phosphorylated at Ser-288. In T-cells when sumoylated drawn to pericentric heterochromatin thereby allowing proliferation .
Post-translational Modifications	Methylated. Methylation at Arg-3 by CARM1 and at Lys-43 by EHMT2 inhibit transactivation activity. Methylation is probably inhibited by phosphorylation at Thr-235. Sumoylated by polymeric chains of SUMO2 or SUMO3 . Sumoylation at Lys-174 is required for inhibition of T-cells proliferation. In adipocytes, sumoylation at Lys-174 by PIAS1 leads to ubiquitination and subsequent proteasomal degradation. Desumoylated by SENP2, which abolishes ubiquitination and stabilizes protein levels . Ubiquitinated, leading to proteasomal degradation. Phosphorylated at Thr-235 by MAPK and CDK2, serves to prime phosphorylation at Thr-226 and Ser-231 by GSK3B and acquire DNA-binding as well as transactivation activities, required to induce adipogenesis. MAPK and CDK2 act sequentially to maintain Thr-235 in the primed phosphorylated state during mitotical cloning expansion and thereby progression of terminal differentiation. Phosphorylation at Thr-266 enhances transactivation activity. Phosphorylation at Ser-325 in response to calcium increases transactivation activity. Phosphorylated at Thr-235 by RPS6KA1 . O-glycosylated, glycosylation at Ser-227 and Ser-228 prevents phosphorylation on Thr-235, Ser-231 and Thr-226 and DNA binding activity which delays the adipocyte differentiation program. Acetylated. Acetylation at Lys-43 is an important and dynamic regulatory event that contributes to its ability to transactivate target genes, including those associated with adipogenesis and adipocyte function. Deacetylation by HDAC1 represses its transactivation activity. Acetylated by KAT2A and KAT2B within a cluster of lysine residues between amino acids 129-133, this acetylation is strongly induced by glucocorticoid treatment and enhances transactivation activity.