SANTA CRUZ BIOTECHNOLOGY, INC.

# PEBP2β (141,4,1): sc-56751

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*The Power to Question*

## BACKGROUND

The transcription factor polyomavirus enhancer binding protein 2 (PEBP2), also designated Osf2 (osteoblast-specific transcription factor), CBFA1 (core binding factor) and AML3 (acute myeloid leukemia), is composed of two subunits, α and β, which are essential for the regulation of hematopoiesis and osteogenesis. The PEBP2α subunits, PEBP2αA, PEBP2αB and PEBP2αC, are encoded by three RUNX genes, all of which contain a 128-amino acid region homologous to the highly conserved *Drosophila* segmentation gene, Runt. This region is involved in DNA binding and heterodimerization with the regulatory β subunit, which facilitates DNA binding of the α subunit. Both subunits are required for *in vivo* function; the disruption of either gene results in a lack of definitive hematopoiesis followed by embryo death *in utero* due to hemorrhage in the central nervous system. The gene encoding PEBP2β is the target of chromosomal inversion 16 (p13;q22) with the smooth muscle Myosin heavy chain, producing a chimeric gene, PEBP2β/CBFB-SMMHC, that is associated with human acute myeloid leukemia.

## CHROMOSOMAL LOCATION

Genetic locus: CBFB (human) mapping to 16q22.1; Cbfb (mouse) mapping to 8 D3.

## SOURCE

PEBP2β (141,4,1) is a mouse monoclonal antibody raised against amino acids 1-141 of PEBP2β of mouse origin.

## PRODUCT

Each vial contains 200 µg $IgG_{2a}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PEBP2β (141,4,1) is available conjugated to agarose (sc-56751 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-56751 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-56751 PE), fluorescein (sc-56751 FITC), Alexa Fluor® 488 (sc-56751 AF488), Alexa Fluor® 546 (sc-56751 AF546), Alexa Fluor® 594 (sc-56751 AF594) or Alexa Fluor® 647 (sc-56751 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-56751 AF680) or Alexa Fluor® 790 (sc-56751 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

PEBP2β (141,4,1) is recommended for detection of PEBP2β of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for PEBP2β siRNA (h): sc-37681, PEBP2β siRNA (m): sc-37682, PEBP2β shRNA Plasmid (h): sc-37681-SH, PEBP2β shRNA Plasmid (m): sc-37682-SH, PEBP2β shRNA (h) Lentiviral Particles: sc-37681-V and PEBP2β shRNA (m) Lentiviral Particles: sc-37682-V.

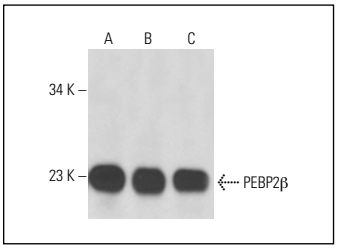
Molecular Weight of PEBP2β: 22 kDa.

Positive Controls: MEG-01 cell lysate: sc-2283.

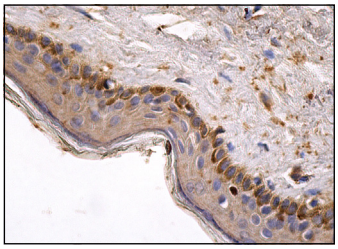
## STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA




PEBP2β (141,4,1): sc-56751. Western blot analysis of PEBP2β expression in MEG-01 (**A**), HeLa (**B**) and K-562 (**C**) whole cell lysates.



PEBP2β (141,4,1): sc-56751. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of epidermal cells.

## SELECT PRODUCT CITATIONS


1. Galli, C., et al. 2009. Commitment to the osteoblast lineage is not required for RANKL gene expression. J. Biol. Chem. 99: 12654-12662.
2. Greer, A.H., et al. 2013. Knockdown of core binding factorβ alters sphingolipid metabolism. J. Cell. Physiol. 228: 2350-2364.
3. Wu, M., et al. 2014. Deletion of core-binding factor β (Cbfβ) in mesenchymal progenitor cells provides new insights into Cbfβ/Runxs complex function in cartilage and bone development. Bone 65: 49-59.
4. Valera, M.S., et al. 2015. The HDAC6/APOBEC3G complex regulates HIV-1 infectiveness by inducing Vif autophagic degradation. Retrovirology 12: 53.
5. Yoshikawa, R., et al. 2016. Small ruminant lentiviral Vif proteins commonly utilize cyclophilin A, an evolutionarily and structurally conserved protein, to degrade ovine and caprine APOBEC3 proteins. Microbiol. Immunol. 60: 427-436.
6. Wu, M., et al. 2017. Cbfβ governs osteoblast-adipocyte lineage commitment through enhancing β-catenin signaling and suppressing adipogenesis gene expression. Proc. Natl. Acad. Sci. USA 114: 10119-10124.
7. Wang, D., et al. 2018. The transcription factor Runx3 establishes chromatin accessibility of *cis*-regulatory landscapes that drive memory cytotoxic T lymphocyte formation. Immunity 48: 659-674.
8. Choi, S.Y., et al. 2019. Crlz-1 controls germinal center reaction by relaying a Wnt signal to the Bcl-6 expression in centroblasts during humoral immune responses. J. Immunol. 203: 2630-2643.
9. Tang, C., et al. 2020. RUNX1 up-regulates chondrocyte to osteoblast lineage commitment and promotes bone formation by enhancing both chondrogenesis and osteogenesis. Biochem. J. 477: 2421-2438.


## RESEARCH USE

For research use only, not for use in diagnostic procedures.