

PEBP2 β (141,4,1): sc-56751

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 PEBP2 α subunits, PEBP2 α A, PEBP2 α B and PEBP2 α C, 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 PEBP2 β is the target of chromosomal inversion 16 (p13;q22) with the smooth muscle Myosin heavy chain, producing a chimeric gene, PEBP2 β /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

PEBP2 β (141,4,1) is a mouse monoclonal antibody raised against amino acids 1-141 of PEBP2 β of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PEBP2 β (141,4,1) is available conjugated to agarose (sc-56751 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-56751 HRP), 200 μ g/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 μ g/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 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PEBP2 β (141,4,1) is recommended for detection of PEBP2 β of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 PEBP2 β siRNA (h): sc-37681, PEBP2 β siRNA (m): sc-37682, PEBP2 β shRNA Plasmid (h): sc-37681-SH, PEBP2 β shRNA Plasmid (m): sc-37682-SH, PEBP2 β shRNA (h) Lentiviral Particles: sc-37681-V and PEBP2 β shRNA (m) Lentiviral Particles: sc-37682-V.

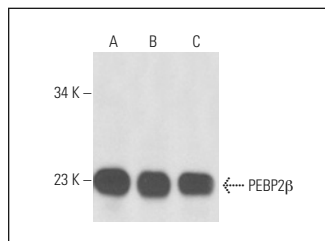
Molecular Weight of PEBP2 β : 22 kDa.

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

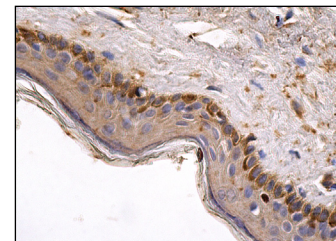
STORAGE

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

DATA



PEBP2 β (141,4,1): sc-56751. Western blot analysis of PEBP2 β expression in MEG-01 (A), HeLa (B) and K-562 (C) whole cell lysates.



PEBP2 β (141,4,1): sc-56751. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of epidermal cells.

SELECT PRODUCT CITATIONS

- Galli, C., et al. 2009. Commitment to the osteoblast lineage is not required for RANKL gene expression. *J. Biol. Chem.* 99: 12654-12662.
- Greer, A.H., et al. 2013. Knockdown of core binding factor β alters sphingolipid metabolism. *J. Cell. Physiol.* 228: 2350-2364.
- Wu, M., et al. 2014. Deletion of core-binding factor β (Cbfb) in mesenchymal progenitor cells provides new insights into Cbfb/Runx complex function in cartilage and bone development. *Bone* 65: 49-59.
- Valera, M.S., et al. 2015. The HDAC6/APOBEC3G complex regulates HIV-1 infectiveness by inducing Vif autophagic degradation. *Retrovirology* 12: 53.
- 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.
- Wu, M., et al. 2017. Cbfb governs osteoblast-adipocyte lineage commitment through enhancing β -catenin signaling and suppressing adipogenesis gene expression. *Proc. Natl. Acad. Sci. USA* 114: 10119-10124.
- 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.
- Choi, S.Y., et al. 2019. Criz-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.
- 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.* E-published.

RESEARCH USE

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

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