SANTA CRUZ BIOTECHNOLOGY, INC.

PEBP2β (A-4): sc-166142

SANTA CRUZ BIOTECHNOLOGY

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/CBFβ-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 (A-4) is a mouse monoclonal antibody raised against amino acids 1-182 representing full length PEBP2β of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-166142 X, 200 µg/0.1 ml.

STORAGE

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

APPLICATIONS

PEBP2β (A-4) is recommended for detection of PEBP2β of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

PEBP2β (A-4) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

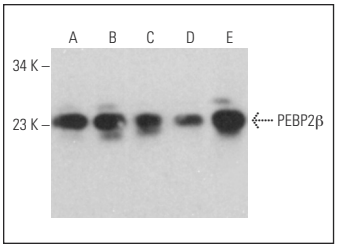
Molecular Weight of PEBP2β: 22 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or WR19L cell lysate: sc-3805.

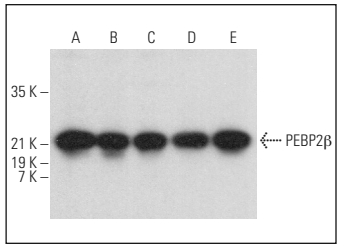
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



PEBP2β (A-4): sc-166142. Western blot analysis of PEBP2β expression in MEG-01 (**A**), K-562 (**B**), HeLa (**C**), HUV-EC-C (**D**) and RAW 264.7 (**E**) whole cell lysates.



PEBP2β (A-4): sc-166142. Western blot analysis of PEBP2β expression in MEG-01 (**A**), HEL 92.1.7 (**B**), Daudi (**C**), WEHI-231 (**D**) and WR19L (**E**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Wang, H., et al. 2014. Requirement of HIV-1 Vif C-terminus for Vif-CBF-β interaction and assembly of CUL5-containing E3 ligase. BMC Microbiol. 14: 290.
2. Fribourgh, J.L., et al. 2014. Core binding factor β plays a critical role by facilitating the assembly of the Vif-cullin 5 E3 ubiquitin ligase. J. Virol. 88: 3309-3319.
3. Zhang, W., et al. 2014. Cellular requirements for bovine immunodeficiency virus Vif-mediated inactivation of bovine APOBEC3 proteins. J. Virol. 88: 12528-12540.
4. Wang, H., et al. 2014. Identification of HIV-1 Vif regions required for CBF-β interaction and APOBEC3 suppression. PLoS ONE 9: e95738.
5. Su, X., et al. 2018. Jembrana disease virus Vif antagonizes the inhibition of bovine APOBEC3 proteins through ubiquitin-mediate protein degradation. Virology 519: 53-63.
6. Zhao, Z., et al. 2019. CAEV Vif hijacks ElonginB/C, CYPA and Cullin5 to assemble the E3 ubiquitin ligase complex stepwise to degrade oaA3Z2-Z3. Front. Microbiol. 10: 565.
7. Gao, W., et al. 2021. Specific deubiquitinating enzymes promote host restriction factors against HIV/SIV viruses. Front. Immunol. 12: 740713.

RESEARCH USE

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