SANTA CRUZ BIOTECHNOLOGY, INC.

PEBP2β (E-20): sc-17181

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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/CBFβ-SMMHC, that is associated with human acute myeloid leukemia.

REFERENCES

1. Kamachi, Y., et al. 1990. Purification of a mouse nuclear factor that binds to both the A and B cores of the polyomavirus enhancer. J. Virol. 64: 4808-4819.
2. Ogawa, E., et al. 1993. PEBP2/PEA2 represents a family of transcription factors homologous to the products of the *Drosophila* runt gene and the human AML1 gene. Proc. Natl. Acad. Sci. USA 90: 6859-6863.
3. Ogawa, E., et al. 1993. Molecular cloning and characterization of PEBP2 β, the heterodimeric partner of a novel *Drosophila* runt-related DNA binding protein PEBP2 alpha. Virol. 194: 314-331.
4. Tanaka, Y., et al. 1998. The chimeric protein, PEBP2 beta/CBF β-SMMHC, disorganizes cytoplasmic stress fibers and inhibits transcriptional activation. Oncogene 17: 699-708.

SOURCE

PEBP2β (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PEBP2β of human origin.

PRODUCT

Each vial contains 200 µg IgG 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-17181 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-17181 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

RESEARCH USE

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

APPLICATIONS

PEBP2β (E-20) 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PEBP2β (E-20) is also recommended for detection of PEBP2β in additional species, including canine, bovine and avian.

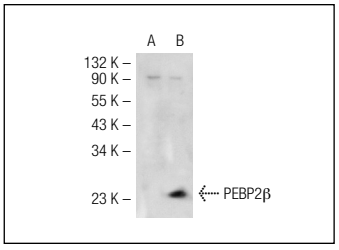
Suitable for use as control antibody for PEBP2β siRNA (h): sc-37681 and PEBP2β siRNA (m): sc-37682.

PEBP2β (E-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

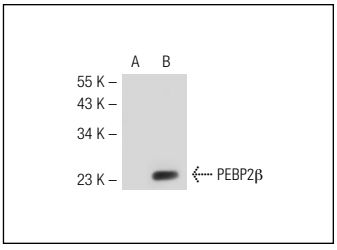
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PEBP2β (E-20): sc-17181. Western blot analysis of PEBP2β expression in non-transfected: sc-117752 (**A**) and human PEBP2β transfected: sc-111108 (**B**) 293T whole cell lysates.



PEBP2β (E-20): sc-17181. Western blot analysis of PEBP2β expression in non-transfected: sc-117752 (**A**) and mouse PEBP2β transfected: sc-122480 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Fujimoto, T., et al. 2007. Cdk6 blocks myeloid differentiation by interfering with Runx1 DNA binding and Runx1-C/EBPα interaction. EMBO J. 26: 2361-2370.