SANTA CRUZ BIOTECHNOLOGY, INC.

Pbx 2 (H-7): sc-377164

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Pbx 1, 2, 3 and 4 are members of the TALE (three amino acid loop extension) family of homeodomain-containing proteins. Human pre-B cell acute leukemias are frequently associated with a t(1;19)(q23;p13.3) chromosomal rearrangement, which creates a chimeric gene encoding a fusion between the E2A and Pbx 1 gene products. Pbx 2 and Pbx 3 share 92% and 94% respective identities with Pbx 1 over a 266 amino acid region flanking their homeobox domains, while all three proteins are quite divergent at their amino- and carboxy-termini. Two forms of Pbx 1 and Pbx 3 each differ primarily in their carboxy-termini and result from alternative mRNA splicing. Unlike other homeotic selector genes which are expressed transiently during development and differentiation, Pbx gene transcripts are ubiquitously expressed in both fetal and adult tissues and cell lines. Additionally, Pbx 2 and Pbx 3 transcripts are detected in lymphoid cells, which do not express Pbx 1. Pbx 4 expression is confined to the testis, especially to spermatocytes in the pachytene stage of the first meiotic prophase.

REFERENCES

1. Nourse, J., et al. 1990. Chromosomal translocation t(1;19) results in synthesis of a homeobox fusion mRNA that codes for a potential chimeric transcription factor. Cell 60: 535-545.
2. Kamps, M.P., et al. 1990. A new homeobox gene contributes the DNA binding domain of the t(1;19) translocation protein in pre-B ALL. Cell 60: 547-555.
3. Monica, K., et al. 1991. Pbx2 and Pbx3, new homeobox genes with extensive homology to the human proto-oncogene PBX1. Mol. Cell. Biol. 11: 6149-6157.
4. LeBrun, D.P., et al. 1994. Fusion with E2A alters the transcriptional properties of the homeodomain protein Pbx 1 in t(1;19) leukemias. Oncogene 9: 1641-1647.

CHROMOSOMAL LOCATION

Genetic locus: PBX2 (human) mapping to 6p21.32; Pbx2 (mouse) mapping to 17 B1.

SOURCE

Pbx 2 (H-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 12-41 at the N-terminus of Pbx 2 of human origin.

PRODUCT

Each vial contains 200 µg IgA 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-377164 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-377164 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

Pbx 2 (H-7) is recommended for detection of Pbx 2 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 Pbx 2 siRNA (h): sc-38798, Pbx 2 siRNA (m): sc-38799, Pbx 2 shRNA Plasmid (h): sc-38798-SH, Pbx 2 shRNA Plasmid (m): sc-38799-SH, Pbx 2 shRNA (h) Lentiviral Particles: sc-38798-V and Pbx 2 shRNA (m) Lentiviral Particles: sc-38799-V.

Pbx 2 (H-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

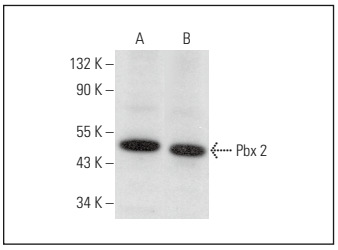
Molecular Weight of Pbx 2: 46 kDa.

Positive Controls: Ramos cell lysate: sc-2216, Raji whole cell lysate: sc-364236 or NAMALWA cell lysate: sc-2234.

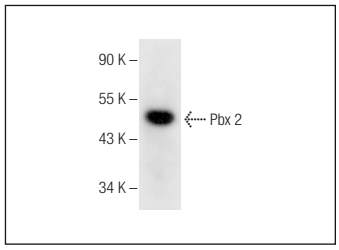
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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



Pbx 2 (H-7): sc-377164. Western blot analysis of Pbx 2 expression in Raji (**A**) and NAMALWA (**B**) whole cell lysates.



Pbx 2 (H-7): sc-377164. Western blot analysis of Pbx 2 expression in Ramos whole cell lysate.

SELECT PRODUCT CITATIONS

1. Lin, J., et al. 2021. Coexpression of HoxA6 and Pbx 2 promotes metastasis in gastric cancer. Aging 13: 6606-6624.

RESEARCH USE

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