

Pbx 1/2/3/4 (H-260): sc-25411

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 3 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. Pbx 2 and Pbx 3, new homeobox genes with extensive homology to the human proto-oncogene Pbx 1. *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.
5. Lu, Q., et al. 1994. Fusion with E2A converts the Pbx 1 homeodomain protein into a constitutive transcriptional activator in human leukemias carrying the t(1;19) translocation. *Mol. Cell. Biol.* 14: 3938-3948.
6. Monica, K., et al. 1994. Transformation properties of the E2A-Pbx 1 chimeric oncoprotein: fusion with E2A is essential, but the Pbx 1 homeodomain is dispensable. *Mol. Cell. Biol.* 14: 8304-8314.

SOURCE

Pbx 1/2/3/4 (H-260) is a rabbit polyclonal antibody raised against amino acids 1-260 mapping at the N-terminus of Pbx 1 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.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-25411 X, 200 µg/0.1 ml.

RESEARCH USE

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

APPLICATIONS

Pbx 1/2/3/4 (H-260) is recommended for detection of Pbx 1, Pbx 2, Pbx 3 and Pbx 4 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).

Pbx 1/2/3/4 (H-260) is also recommended for detection of Pbx 1, Pbx 2, Pbx 3 and Pbx 4 in additional species, including equine, canine, bovine, porcine and avian.

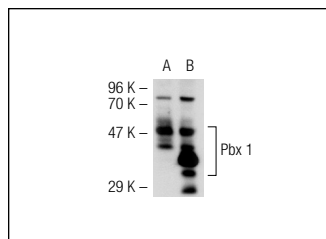
Suitable for use as control antibody for Pbx 1/2/3/4 siRNA (h): sc-43999, Pbx 1/2/3/4 shRNA Plasmid (h): sc-43999-SH and Pbx 1/2/3/4 shRNA (h) Lentiviral Particles: sc-43999-V.

Pbx 1/2/3/4 (H-260) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Pbx 1/2/3/4: 47/46/47/41 kDa.

Positive Controls: Pbx 1 (m): 293T Lysate: sc-122409 or Jurkat nuclear extract: sc-2132.

DATA



Pbx 1/2/3/4 (H-260): sc-25411. Western blot analysis of Pbx 1 expression in non-transfected: sc-117752 (A) and mouse Pbx 1 transfected: sc-122409 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Yin, L., et al. 2005. Role of CCAAT/enhancer-binding protein, histone acetylation, and coactivator recruitment in the regulation of malic enzyme transcription by thyroid hormone. *Mol. Cell. Endocrinol.* 245: 43-52.
2. Sohl, M., et al. 2009. Characterization of the murine Ephrin-B2 promoter. *Gene* 437: 54-59.

STORAGE

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

MONOS
Satisfaction
Guaranteed

Try **Pbx 1/2/3/4 (F-3): sc-28313** or **Pbx 1/2/3/4 (E-12): sc-48423**, our highly recommended monoclonal alternatives to Pbx 1/2/3/4 (H-260).