

# Pbx 3 (39-K): sc-81988

## 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 splicings. 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: PBX3 (human) mapping to 9q33.3; Pbx3 (mouse) mapping to 2 B.

## SOURCE

Pbx 3 (39-K) is a mouse monoclonal antibody raised against recombinant Pbx 3 of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## APPLICATIONS

Pbx 3 (39-K) is recommended for detection of Pbx 3 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), immunohistochemistry (including paraffin-embedded sections) (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 3 siRNA (h): sc-38800, Pbx 3 siRNA (m): sc-38801, Pbx 3 shRNA Plasmid (h): sc-38800-SH, Pbx 3 shRNA Plasmid (m): sc-38801-SH, Pbx 3 shRNA (h) Lentiviral Particles: sc-38800-V and Pbx 3 shRNA (m) Lentiviral Particles: sc-38801-V.

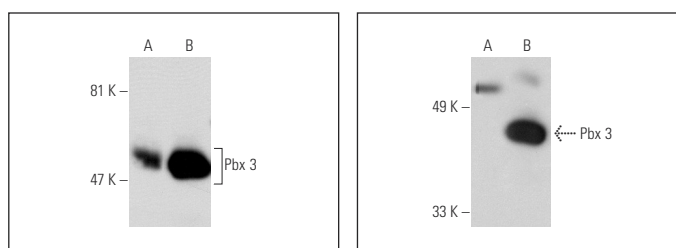
Molecular Weight of Pbx 3: 47 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, Pbx 3 (h2): 293T Lysate: sc-113459 or HeLa nuclear extract: sc-2120.

## 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, 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 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 3 (39-K): sc-81988. Western blot analysis of Pbx 3 expression in non-transfected: sc-117752 (A) and human Pbx 3 transfected: sc-111640 (B) 293T whole cell lysates.

Pbx 3 (39-K): sc-81988. Western blot analysis of Pbx 3 expression in non-transfected: sc-117752 (A) and human Pbx 3 transfected: sc-113459 (B) 293T whole cell lysates.

## RESEARCH USE

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