

# Pbx 3a (2.9): sc-101854

## 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. Pbx 2 and Pbx 3, new homeobox genes with extensive homology to the human proto-oncogene Pbx 1. *Mol. Cell. Biol.* 11: 6149-6157.

## CHROMOSOMAL LOCATION

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

## SOURCE

Pbx 3a (2.9) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 352-432 of Pbx 3a of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Pbx 3a (2.9) is available conjugated to agarose (sc-101854 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-101854 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-101854 PE), fluorescein (sc-101854 FITC), Alexa Fluor® 488 (sc-101854 AF488), Alexa Fluor® 546 (sc-101854 AF546), Alexa Fluor® 594 (sc-101854 AF594) or Alexa Fluor® 647 (sc-101854 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-101854 AF680) or Alexa Fluor® 790 (sc-101854 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## RESEARCH USE

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

## APPLICATIONS

Pbx 3a (2.9) is recommended for detection of Pbx 3a 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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 3a: 47 kDa.

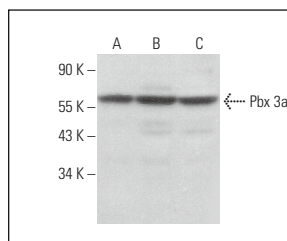
Positive Controls: Pbx 3 (h): 293T Lysate: sc-111640, Ramos cell lysate: sc-2216 or Raji whole cell lysate: sc-364236.

## RECOMMENDED SUPPORT REAGENTS

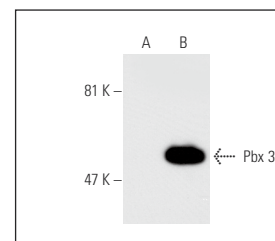
To ensure optimal results, the following support reagents are recommended:

- 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.
- 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



Pbx 3a (2.9): sc-101854. Western blot analysis of Pbx 3a expression in Ramos (A), Raji (B) and NAMALWA (C) whole cell lysates.



Pbx 3a (2.9): sc-101854. 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.

## 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.

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