SANTA CRUZ BIOTECHNOLOGY, INC.

Pbx 1b (41.1): sc-101852

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 splicings. Unlike other hometic 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.

CHROMOSOMAL LOCATION

Genetic locus: PBX1 (human) mapping to 1q23.3; Pbx1 (mouse) mapping to 1 H2.3.

SOURCE

Pbx 1b (41.1) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 319-347 of Pbx 1b of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Pbx 1b (41.1) is available conjugated to agarose (sc-101852 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-101852 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-101852 PE), fluorescein (sc-101852 FITC), Alexa Fluor® 488 (sc-101852 AF488), Alexa Fluor® 546 (sc-101852 AF546), Alexa Fluor® 594 (sc-101852 AF594) or Alexa Fluor® 647 (sc-101852 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-101852 AF680) or Alexa Fluor® 790 (sc-101852 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Pbx 1b (41.1) is recommended for detection of Pbx 1b 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 1 siRNA (h): sc-38796, Pbx 1 siRNA (m): sc-38797, Pbx 1 shRNA Plasmid (h): sc-38796-SH, Pbx 1 shRNA Plasmid (m): sc-38797-SH, Pbx 1 shRNA (h) Lentiviral Particles: sc-38796-V and Pbx 1 shRNA (m) Lentiviral Particles: sc-38797-V.

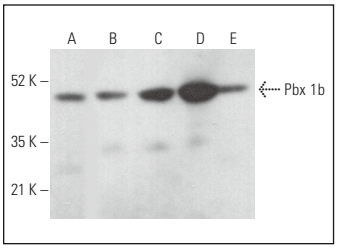
Molecular Weight of Pbx 1b: 47 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, HeLa whole cell lysate: sc-2200 or Sol8 cell lysate: sc-2249.

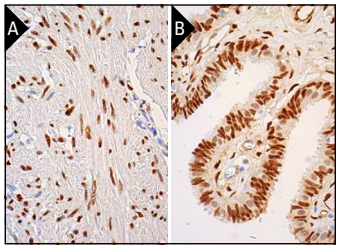
STORAGE

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

DATA



Pbx 1b (41.1): sc-101852. Western blot analysis of Pbx 1b expression in HeLa (**A**), PC-12 (**B**), A-10 (**C**), Sol8 (**D**) and EOC 20 (**E**) whole cell lysates.



Pbx 1b (41.1): sc-101852. Immunoperoxidase staining of formalin fixed, paraffin-embedded human smooth muscle tissue showing nuclear staining of smooth muscle cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing nuclear staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Delval, S., et al. 2011. The Pbx interaction motif of Hoxa1 is essential for its oncogenic activity. PLoS ONE 6: e25247.
2. Coy, S., et al. 2011. A novel Gli3 enhancer controls the Gli3 spatiotemporal expression pattern through a TALE homeodomain protein binding site. Mol. Cell. Biol. 31: 1432-1443.
3. Villaescusa, J.C., et al. 2016. A Pbx1 transcriptional network controls dopaminergic neuron development and is impaired in Parkinson's disease. EMBO J. 35: 1963-1978.
4. McCulley, D.J., et al. 2018. Pbx transcription factors drive pulmonary vascular adaptation to birth. J. Clin. Invest. 128: 655-667.
5. Zhang, H., et al. 2019. FAT4 fine-tunes kidney development by regulating RET signaling. Dev. Cell 48: 780-792.e4.
6. Remesal, L., et al. 2020. PBX1 acts as terminal selector for olfactory bulb dopaminergic neurons. Development 147: dev186841.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.