

PREP-1 (B-2): sc-25282

BACKGROUND

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. Fusion cDNAs have been shown to encode a protein comprised of two-thirds of the E2A transactivation domain, fused to a homeobox protein termed PRL or Pbx 1. Two highly related Pbx proteins, designated Pbx 2 and Pbx 3, have also been identified. Pbx 2 and Pbx 3 share a 92% and 94% identity, respectively, 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. Pbx-regulating protein-1, PREP-1 is a DNA-binding protein that forms stable complexes with Pbx proteins which synergize with AP-1 binding factors to augment transcription of the urokinase gene. Also referred to as UEF3, PRP-1 or p64, PREP-1 appears to be a general DNA-binding factor involved in modulating the transcriptional activity of AP-1 containing promoters.

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.

CHROMOSOMAL LOCATION

Genetic locus: PKNOX1 (human) mapping to 21q22.3; Pknx1 (mouse) mapping to 17 B1.

SOURCE

PREP-1 (B-2) is a mouse monoclonal antibody raised against an epitope corresponding to amino acids 15-436 of PREP-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ 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-25282 X, 200 µg/0.1 ml.

PREP-1 (B-2) is available conjugated to agarose (sc-25282 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-25282 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-25282 PE), fluorescein (sc-25282 FITC), Alexa Fluor[®] 488 (sc-25282 AF488), Alexa Fluor[®] 546 (sc-25282 AF546), Alexa Fluor[®] 594 (sc-25282 AF594) or Alexa Fluor[®] 647 (sc-25282 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-25282 AF680) or Alexa Fluor[®] 790 (sc-25282 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

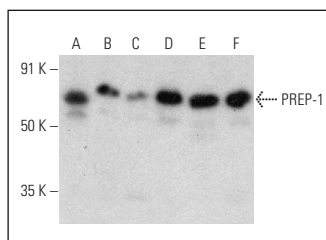
PREP-1 (B-2) is recommended for detection of PREP-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1,000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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 PREP-1 siRNA (h): sc-38758, PREP-1 siRNA (m): sc-38759, PREP-1 shRNA Plasmid (h): sc-38758-SH, PREP-1 shRNA Plasmid (m): sc-38759-SH, PREP-1 shRNA (h) Lentiviral Particles: sc-38758-V and PREP-1 shRNA (m) Lentiviral Particles: sc-38759-V.

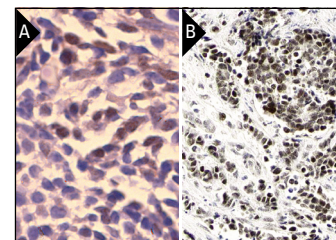
PREP-1 (B-2) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of PREP-1: 64 kDa.

DATA



PREP-1 (B-2): sc-25282. Western blot analysis of PREP-1 expression in RAW 264.7 nuclear extract (A) and A-431 (B), BC₃H1 (C), c4 (D), CSMLO (E) and Neuro-2A (F) whole cell lysates.



PREP-1 (B-2): sc-25282. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse embryo tissue showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human cervical cancer tissue showing nuclear staining of tumor cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

SELECT PRODUCT CITATIONS

1. Díaz, V.M., et al. 2007. p160 Myb-binding protein interacts with Prep1 and inhibits its transcriptional activity. *Mol. Cell. Biol.* 27: 7981-7990.
2. Ciccarelli, M., et al. 2016. Glucose-induced expression of the homeotic transcription factor Prep1 is associated with histone post-translational modifications in skeletal muscle. *Diabetologia* 59: 176-186.
3. Maroni, G., et al. 2017. Prep1 prevents premature adipogenesis of mesenchymal progenitors. *Sci. Rep.* 7: 15573.
4. Völkel, S., et al. 2018. Transcription factor Sp2 potentiates binding of the TALE homeoproteins Pbx1:Prep1 and the histone-fold domain protein Nf-y to composite genomic sites. *J. Biol. Chem.* 293: 19250-19262.
5. Bruno, A., et al. 2021. Leptin and TGF-β1 downregulate PREP1 expression in human adipose-derived mesenchymal stem cells and mature adipocytes. *Front. Cell Dev. Biol.* 9: 700481.

RESEARCH USE

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