

PREP-1 (H-1): sc-55471

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.
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.
7. Berthelsen, J., et al. 1996. Purification and characterization of UEF3, a novel factor involved in the regulation of the urokinase and other AP-1 controlled promoters. *J. Biol. Chem.* 271: 3822-3830.

CHROMOSOMAL LOCATION

Genetic locus: PKNOX1 (human) mapping to 21q22.3; Pknox1 (mouse) mapping to 17 B1.

SOURCE

PREP-1 (H-1) is a mouse monoclonal antibody raised against amino acids 15-436 mapping at the N-terminus of PREP-1 (Pbx-regulating protein-1) of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PREP-1 (H-1) is recommended for detection of PREP-1 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).

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.

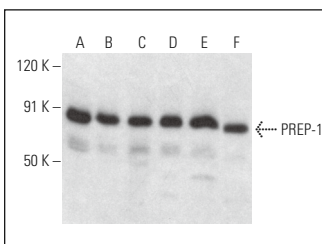
Molecular Weight of Prep-1: 64 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, c4 whole cell lysate: sc-364186 or Hep G2 cell lysate: sc-2227.

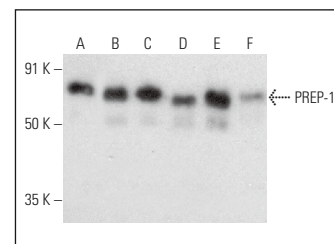
RECOMMENDED SUPPORT REAGENTS

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.

DATA



PREP-1 (H-1): sc-55471. Western blot analysis of PREP-1 expression in K-562 (A), Hep G2 (B), H4 (C), MDA-MB-231 (D), Caki-1 (E) and COLO 205 (F) whole cell lysates.



PREP-1 (H-1): sc-55471. Western blot analysis of PREP-1 expression in A-431 (A), c4 (B), Neuro-2A (C), C6 (D), H19-7/IGF-IR (E) and L8 (F) 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.