

PREP-2 (56.1): sc-101857

BACKGROUND

PREP-2 (Pbx-regulating protein-2), also known as Pbx/knotted 1 homeobox 2 or PKNOX2, is a widely expressed protein belonging to the TALE (three amino acid loop extension)/MEIS family. PREP-2 is a DNA-binding protein that forms stable complexes with Pbx proteins. It is highly homologous to the related protein PREP-1, but displays a more restricted tissue distribution and a higher DNA-dissociation rate. Like PREP-1, PREP-2 forms a heterodimer with Pbx 1. The PREP-2-Pbx 1 dimer is relocated to the nucleus where it associates with HoxB1 to form a ternary complex. In contrast with PREP-1, which acts to increase transcriptional activation in this ternary complex, PREP-2 leads to a slight decrease in transcriptional activity of the ternary complex. Multiple isoforms exist for PREP-2, localizing to the nucleus or cytoplasm. Cytoplasmic isoforms are believed to colocalize with F-Actin, G-Actin and Tubulin/microtubules.

REFERENCES

1. Imoto, I., et al. 2001. Identification and characterization of human PKNOX2, a novel homeobox-containing gene. *Biochem. Biophys. Res. Commun.* 287: 270-276.
2. Haller, K., et al. 2002. PREP-2: cloning and expression of a new prep family member. *Dev. Dyn.* 225: 358-364.
3. Fognani, C., et al. 2002. Characterization of PREP2, a paralog of PREP1, which defines a novel sub-family of the MEINOX TALE homeodomain transcription factors. *Nucleic Acids Res.* 30: 2043-2051.
4. Haller, K., et al. 2004. Subcellular localization of multiple PREP2 isoforms is regulated by Actin, Tubulin, and nuclear export. *J. Biol. Chem.* 279: 49384-49394.
5. Villaescusa, J.C., et al. 2004. Expression of Hox cofactor genes during mouse ovarian follicular development and oocyte maturation. *Gene* 330: 1-7.

CHROMOSOMAL LOCATION

Genetic locus: PKNOX2 (human) mapping to 11q24.2; Pknox2 (mouse) mapping to 9 A4.

SOURCE

PREP-2 (56.1) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 90-435 of PREP-2 of human origin.

PRODUCT

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

PREP-2 (56.1) is available conjugated to agarose (sc-101857 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-101857 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-101857 PE), fluorescein (sc-101857 FITC), Alexa Fluor[®] 488 (sc-101857 AF488), Alexa Fluor[®] 546 (sc-101857 AF546), Alexa Fluor[®] 594 (sc-101857 AF594) or Alexa Fluor[®] 647 (sc-101857 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-101857 AF680) or Alexa Fluor[®] 790 (sc-101857 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PREP-2 (56.1) is recommended for detection of PREP-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for PREP-2 siRNA (h): sc-62856, PREP-2 siRNA (m): sc-62857, PREP-2 shRNA Plasmid (h): sc-62856-SH, PREP-2 shRNA Plasmid (m): sc-62857-SH, PREP-2 shRNA (h) Lentiviral Particles: sc-62856-V and PREP-2 shRNA (m) Lentiviral Particles: sc-62857-V.

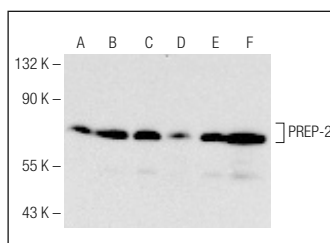
Molecular Weight of PREP-2: 70 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, NIH/3T3 nuclear extract: sc-2138 or IMR-32 nuclear extract: sc-2148.

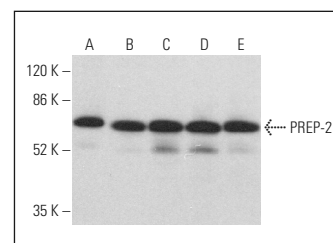
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BPHRP: sc-516102 or m-IgGκ BPHRP (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).

DATA



PREP-2 (56.1): sc-101857. Western blot analysis of PREP-2 expression in HeLa (A), IMR-32 (B), DU 145 (C), A-673 (D), A549 (E) and SK-N-MC (F) nuclear extracts.



PREP-2 (56.1): sc-101857. Western blot analysis of PREP-2 expression in HeLa (A) and NIH/3T3 (B) nuclear extracts and Neuro-2A (C), c4 (D) and C6 (E) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Cagnan, I., et al. 2019. PKNOX2 expression and regulation in the bone marrow mesenchymal stem cells of Fanconi anemia patients and healthy donors. *Mol. Biol. Rep.* 46: 669-678.
2. Miyake, Y., et al. 2021. PKNOX2 regulates myofibroblast functions and tubular cell survival during kidney fibrosis. *Biochem. Biophys. Res. Commun.* 571: 88-95.

STORAGE

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

RESEARCH USE

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

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