

## PREP-2 (H-58): sc-292315

### 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.
6. Mee, L., et al. 2005. Hydrolethalus syndrome is caused by a missense mutation in a novel gene HYL1. *Hum. Mol. Genet.* 14: 1475-1488.
7. Jave-Suárez, L.F., et al. 2006. The HOXC13-controlled expression of early hair keratin genes in the human hair follicle does not involve TALE proteins MEIS and PREP as cofactors. *Arch. Dermatol. Res.* 297: 372-376.
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### CHROMOSOMAL LOCATION

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

### SOURCE

PREP-2 (H-58) is a rabbit polyclonal antibody raised against amino acids 350-407 mapping near the C-terminus of PREP-2 of human origin.

### RESEARCH USE

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

### PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### APPLICATIONS

PREP-2 (H-58) 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), 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).

PREP-2 (H-58) is also recommended for detection of PREP-2 in additional species, including equine, canine, bovine, porcine and avian.

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.

PREP-2 (H-58) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of PREP-2: 70 kDa.

Positive Controls: HeLa nuclear extract: sc-2120 or IMR-32 nuclear extract: sc-2148.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### 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) or our catalog for detailed protocols and support products.



Try **PREP-2 (56.1): sc-101857**, our highly recommended monoclonal alternative to PREP-2 (H-58).