

## PREP-2 (T-20): sc-55892

### 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 PREP-2, a paralog of PREP-1, 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 PREP-2 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.
8. Mulligan, M.K., et al. 2006. Toward understanding the genetics of alcohol drinking through transcriptome meta-analysis. *Proc. Natl. Acad. Sci. USA* 103: 6368-6373.

### CHROMOSOMAL LOCATION

Genetic locus: Pknox2 (mouse) mapping to 9 A4.

### SOURCE

PREP-2 (T-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PREP-2 of mouse origin.

### STORAGE

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

### PRODUCT

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

Blocking peptide available for competition studies, sc-55892 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-55892 X, 200 µg/0.1 ml.

### APPLICATIONS

PREP-2 (T-20) is recommended for detection of PREP-2 of mouse and rat 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).

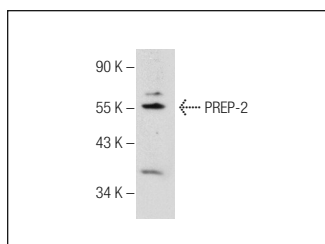
PREP-2 (T-20) is also recommended for detection of PREP-2 in additional species, including equine, canine, bovine and porcine.

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

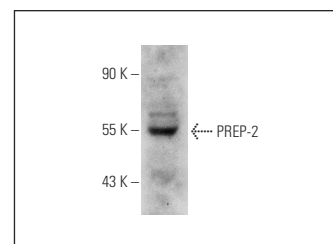
PREP-2 (T-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of PREP-2: 70 kDa.

### DATA



PREP-2 (T-20): sc-55892. Western blot analysis of PREP-2 expression in DU 145 nuclear extract.



PREP-2 (T-20): sc-55892. Western blot analysis of PREP-2 expression in IMR-32 whole cell lysate.

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

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Try **PREP-2 (56.1): sc-101857**, our highly recommended monoclonal alternative to PREP-2 (T-20).