SANTA CRUZ BIOTECHNOLOGY, INC.

PRX1 (1E2): sc-293386

BACKGROUND

The homeobox DNA-binding domain is a 60 amino acid motif that is conserved among many species and functions to bind DNA via a helix-turn-helix structure, thereby playing a role in transcriptional regulation and the control of gene expression. PRX1 (paired related homeobox 1), also known as PRRX1, PMX1 or PHOX1, is a 245 amino acid protein that contains one OAR domain and one homeobox DNA-binding domain and belongs to the paired homeobox family. Localized to the nucleus, PRX1 functions as a transcriptional co-activator that enhances the DNA-binding activity of serum response factor (SRF), thereby mediating the induction of SRF-dependent gene expression by growth and differentiation factors. Additionally, PRX1 regulates the transcriptional activities of creatine kinase-M (muscle), thereby playing a role in the establishment of mesodermal muscle types. PRX1 exists as two alternatively spliced isoforms, designated PMX1-A and PMX1-B.

REFERENCES

1. Grueneberg, D.A., et al. 1992. Human and *Drosophila* homeodomain proteins that enhance the DNA-binding activity of serum response factor. Science 257: 1089-1095.
2. Nakamura, T., et al. 1999. NUP98 is fused to PMX1 homeobox gene in human acute myelogenous leukemia with chromosome translocation t(1;11)(q23;p15). Blood 94: 741-747.

CHROMOSOMAL LOCATION

Genetic locus: PRRX1 (human) mapping to 1q24.2; Prrx1 (mouse) mapping to 1 H2.1.

SOURCE

PRX1 (1E2) is a mouse monoclonal antibody raised against amino acids 1-90 of PRX1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PRX1 (1E2) is recommended for detection of PRX1 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PRX1 siRNA (h): sc-106455, PRX1 siRNA (m): sc-152531, PRX1 shRNA Plasmid (h): sc-106455-SH, PRX1 shRNA Plasmid (m): sc-152531-SH, PRX1 shRNA (h) Lentiviral Particles: sc-106455-V and PRX1 shRNA (m) Lentiviral Particles: sc-152531-V.

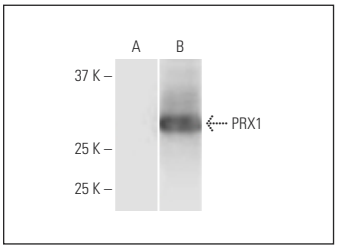
Molecular Weight of PRX1: 26 kDa.

Positive Control: PRX1 transfected 293T whole cell lysate or NIH/3T3 nuclear extract: sc-2138.

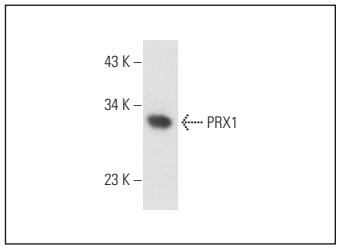
RECOMMENDED SUPPORT REAGENTS

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).

DATA



PRX1 (1E2): sc-293386. Western blot analysis of PRX1 expression in non-transfected (**A**) and PRX1 transfected (**B**) 293T whole cell lysates.



PRX1 (1E2): sc-293386. Western blot analysis of PRX1 expression in NIH/3T3 nuclear extract.

SELECT PRODUCT CITATIONS

1. Wei, W., et al. 2016. Targeting peroxiredoxin I potentiates 1,25-dihydroxyvitamin D_3-induced cell differentiation in leukemia cells. Mol. Med. Rep. 13: 2201-2207.
2. Lan, K.C., et al. 2022. Targeted activation of androgen receptor signaling in the periosteum improves bone fracture repair. Cell Death Dis. 13: 123.
3. Karapurkar, J.K., et al. 2023. CRISPR/Cas9-based genome-wide screening of the deubiquitinase subfamily identifies USP3 as a protein stabilizer of REST blocking neuronal differentiation and promotes neuroblastoma tumorigenesis. J. Exp. Clin. Cancer Res. 42: 121.
4. Liu, S.S., et al. 2023. LncRNA UCA1 participates in *de novo* synthesis of guanine nucleotides in bladder cancer by recruiting TWIST1 to increase IMPDH1/2. Int. J. Biol. Sci. 19: 2599-2612.
5. Kim, S., et al. 2024. DNA-guided transcription factor cooperativity shapes face and limb mesenchyme. Cell 187: 692-711.e26.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.