SANTA CRUZ BIOTECHNOLOGY, INC.

PINX1 (h): 293 Lysate: sc-113229

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

PINX1 (PIN2/TRF1-interacting protein X1), also known as LPTL or LPTS (liver-related putative tumor suppressor), is a ubiquitously expressed protein that localizes to nucleoli and telomere speckles. PINX1 contains one G-patch domain and one telomeric inhibiting domain (TID) at its C-terminus. PINX1 interacts with the telomere protein TRF1 and the telomerase reverse transcriptase TERT. The TID domain of PINX1 specifically interacts with TERT and functions to inhibit its activity, thus participating in the regulation of telomerase activity. Overexpression of PINX1 leads to shortened telomeres, further supporting an inhibitory role of PINX1 on telomerase activity. The depletion of PINX1 significantly increases telomerase activity and may lead to tumorigenicity of cancer cells. This suggests that PINX1 acts as a tumor suppressor and can inhibit cell proliferation. In addition, PINX1 is involved in nucleolar RNA maturation.

REFERENCES

1. Zhou, X.Z., et al. 2001. The PIN2/TRF1-interacting protein PINX1 is a potent telomerase inhibitor. Cell 107: 347-359.
2. Guglielmi, B., et al. 2002. The yeast homolog of human PINX1 is involved in rRNA and small nucleolar RNA maturation, not in telomere elongation inhibition. J. Biol. Chem. 277: 35712-35719.
3. Banik, S.S., et al. 2004. Characterization of interactions between PINX1 and human telomerase subunits hTERT and hTR. J. Biol. Chem. 279: 51745-51748.
4. Hawkins, G.A., et al. 2004. Mutational analysis of PINX1 in hereditary prostate cancer. Prostate 60: 298-302.
5. Akiyama, Y., et al. 2004. Human PINX1, a potent telomerase inhibitor, is not involved in human gastrointestinal tract carcinoma. Oncol. Rep. 11: 871-874.
6. Kondo, T., et al. 2005. Loss of heterozygosity and histone hypoacetylation of the PINX1 gene are associated with reduced expression in gastric carcinoma. Oncogene 24: 157-164.
7. Campbell, L.J., et al. 2006. hTERT, the catalytic component of telomerase, is downregulated in the haematopoietic stem cells of patients with chronic myeloid leukaemia. Leukemia 20: 671-679.
8. Herrmann, G., et al. 2007. Conserved interactions of the splicing factor NTR1/SPP382 with proteins involved in DNA double-strand break repair and telomere metabolism. Nucleic Acids Res. 35: 2321-2332.
9. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 606505. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: PINX1 (human) mapping to 8p23.1.

PRODUCT

PINX1 (h): 293 Lysate represents a lysate of human PINX1 transfected 293 cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

PINX1 (h): 293 Lysate is suitable as a Western Blotting positive control for human reactive PINX1 antibodies. Recommended use: 10-20 µl per lane.

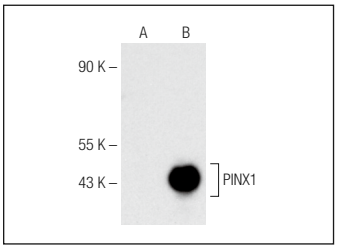
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

PINX1 (A-8): sc-374114 is recommended as a positive control antibody for Western Blot analysis of enhanced human PINX1 expression in PINX1 transfected 293 cells (starting dilution 1:100, dilution range 1:100-1:1,000).

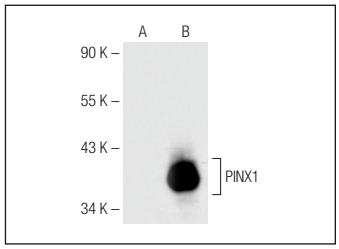
RECOMMENDED SUPPORT REAGENTS

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.

DATA



PINX1 (A-8): sc-374114. Western blot analysis of PINX1 expression in non-transfected: sc-110760 (**A**) and human PINX1 transfected: sc-113229 (**B**) 293 whole cell lysates.



PINX1 (E-9): sc-374115. Western blot analysis of PINX1 expression in non-transfected: sc-110760 (**A**) and human PINX1 transfected: sc-113229 (**B**) 293 whole cell lysates

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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.