SANTA CRUZ BIOTECHNOLOGY, INC.

PTIP (4C11): sc-293322

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The Power to Question

BACKGROUND

PTIP, also known as PAXIP1 (PAX interacting (with transcription-activation domain) protein 1), TNRC2, CAGF28, CAGF29, PACIP1 or PAXIP1L, is a 1,035 amino acid protein that localizes to both the nuclear membrane and the matrix side of the peripheral membrane and contains five BRCT domains. Existing as multiple alternatively spliced isoforms, PTIP functions as a crucial component of the DNA damage response pathway, specifically recognizing phosphorylated substrates and acting as a phosphoserine or phosphothreonine-specific binding module. Additionally, via its protein binding capabilities, PTIP may be involved in early development and cellular proliferation.

REFERENCES

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2. Cho, E.A., et al. 2003. BRCT domain-containing protein PTIP is essential for progression through mitosis. Mol. Cell. Biol. 23: 1666-1673.
3. Manke, I.A., et al. 2003. BRCT repeats as phosphopeptide-binding modules involved in protein targeting. Science 302: 636-639.
4. Rademakers, R., et al. 2005. Linkage and association studies identify a novel locus for Alzheimer disease at 7q36 in a Dutch population-based sample. Am. J. Hum. Genet. 77: 643-652.
5. Cho, Y.W., et al. 2007. PTIP associates with MLL3- and MLL4-containing Histone H3 lysine 4 methyltransferase complex. J. Biol. Chem. 282: 20395-20406.
6. Munoz, I.M., et al. 2007. Phospho-epitope binding by the BRCT domains of hPTIP controls multiple aspects of the cellular response to DNA damage. Nucleic Acids Res. 35: 5312-5322.
7. Göhler, T., et al. 2008. PTIP/Swift is required for efficient PCNA ubiquitination in response to DNA damage. DNA Repair 7: 775-787.
8. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 608254. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Gong, Z., et al. 2009. Accumulation of Pax2 transactivation domain interaction protein (PTIP) at sites of DNA breaks via RNF8-dependent pathway is required for cell survival after DNA damage. J. Biol. Chem. 284: 7284-7293.

CHROMOSOMAL LOCATION

Genetic locus: PAXIP1 (human) mapping to 7q36.2.

SOURCE

PTIP (4C11) is a mouse monoclonal antibody raised against amino acids 868-975 of PTIP of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PTIP (4C11) is recommended for detection of PTIP of 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

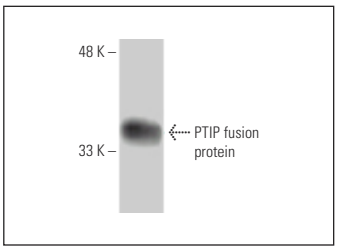
Suitable for use as control antibody for PTIP siRNA (h): sc-76287, PTIP shRNA Plasmid (h): sc-76287-SH and PTIP shRNA (h) Lentiviral Particles: sc-76287-V.

Molecular Weight of PTIP: 130 kDa.

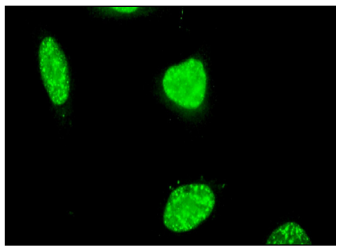
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



PTIP (4C11): sc-293322. Western blot analysis of human recombinant PTIP fusion protein.



PTIP (4C11): sc-293322. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Wang, D., et al. 2021. ATM-phosphorylated SPOP contributes to 53BP1 exclusion from chromatin during DNA replication. Sci. Adv. 7: eabd9208.

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.