SANTA CRUZ BIOTECHNOLOGY, INC.

PTIP siRNA (h): sc-76287

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

1. Lechner, M.S., et al. 2000. PTIP, a novel BRCT domain-containing protein interacts with Pax2 and is associated with active chromatin. Nucleic Acids Res. 28: 2741-2751.
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.

CHROMOSOMAL LOCATION

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

PRODUCT

PTIP siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PTIP shRNA Plasmid (h): sc-76287-SH and PTIP shRNA (h) Lentiviral Particles: sc-76287-V as alternate gene silencing products.

For independent verification of PTIP (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-76287A, sc-76287B and sc-76287C.

PROTOCOLS

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

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

PTIP siRNA (h) is recommended for the inhibition of PTIP expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

PTIP (4C11): sc-293322 is recommended as a control antibody for monitoring of PTIP gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PTIP gene expression knockdown using RT-PCR Primer: PTIP (h)-PR: sc-76287-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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