SANTA CRUZ BIOTECHNOLOGY, INC.

PLIC-1 (P-18): sc-14654

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Proteins linking integrin-assocated protein with cytoskeleton (PLICs) provide a signaling connection between the membrane receptors for thrombospondin and the cytoskeleton. The PLIC proteins are part of ubiquitin-like proteins, all of which contain an ubiquitin-like domain. Both PLIC-1 and PLIC-2, known also as ubiquilin 1 and ubiquilin 2, associate with proteasomes and two different E3 ubiquitin ligase enzymes. These associations suggest that PLIC-1 and PLIC-2 may link ubiquitination machinery and proteasomes for *in vivo* protein degradation. PLIC-1 and PLIC-2 both bind to a short peptide within the ATPase domain of the HSP70-like Stch protein. PLIC-1 is a cytoplasmic protein that associates with the DAN gene product and may play a critical role in cell cycle regulation. It also interacts with two proteins linked to early-onset Alzheimer's disease, presenilin-1 and presenilin-2, and promotes accumulation of the presenilin proteins. PLIC-1 is abundant in neurons of healthy brain, neurofibrillary tangles in Alzheimer's-diseased brain and Lewy bodies of Parkinson-diseased brain.

REFERENCES

1. Ozaki, T., et al. 1997. Identification of a new cellular protein that can interact specifically with DAN. DNA Cell Biol. 16: 985-991.
2. Wu, A.L., et al. 1999. Ubiquitin-related proteins regulate interaction of Vimentin intermediate filaments with the plasma membrane. Mol. Cell 4: 619-625.
3. Kleijnen, M.F., et al. 2000. The hPLIC proteins may provide a link between the ubiquitination machinery and the proteasome. Mol. Cell 6: 409-419.
4. Mah, A.L., et al. 2000. Identification of ubiquilin, a novel presenilin interactor that increases presenilin protein accumulation. J. Cell Biol. 151: 847-862.
5. Hanaoka, E., et al. 2000. Molecular cloning and expression analysis of the human DA41 gene and its mapping to chromosome 9q21.2-q21.3. J. Hum. Genet. 45: 188-191.
6. Kaye, F.J. and Shows, T.B. 2000. Assignment of ubiquilin 2 (UBQLN2) to human chromosome Xp11.23-p11.1 by GeneBridge radiation hybrids. Cytogenet. Cell Genet. 89: 116-117.

CHROMOSOMAL LOCATION

Genetic locus: Ubqln1 (mouse) mapping to 13 B1.

SOURCE

PLIC-1 (P-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PLIC-1 of mouse origin.

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-14654 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PLIC-1 (P-18) is recommended for detection of PLIC-1 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

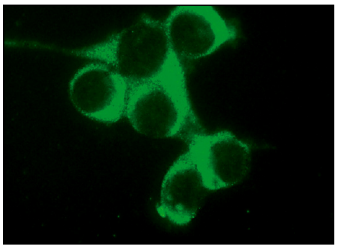
Suitable for use as control antibody for PLIC-1 siRNA (m): sc-41670, PLIC-1 shRNA Plasmid (m): sc-41670-SH and PLIC-1 shRNA (m) Lentiviral Particles: sc-41670-V.

Positive Controls: AT-3 whole cell lysate.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PLIC-1 (P-18): sc-14654. Immunofluorescence staining of methanol-fixed AT-3 cells showing cytoplasmic localization.

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 or our catalog for detailed protocols and support products.