

# ProSAPiP1 (E-18): sc-85844

## BACKGROUND

The ProSAP family of proteins contain many protein-protein interaction domains and serve as scaffolding mediators within the post-synaptic density (PSD) of excitatory brain synapses. The PSD is an electron-dense structure underneath the post-synaptic plasma membrane of excitatory synapses that anchors and clusters glutamate receptors opposite to the pre-synaptic neurotransmitter release site. Shank proteins contain PDZ modular domains that coordinate the synaptic localization of ion channels, receptors, signaling enzymes and cell adhesion molecules. The PDZ domain mediates protein-protein interactions via the recognition of a conserved sequence motif at the C-terminus of their target protein(s). ProSAPiP1 (proline rich synapse associated protein interacting protein 1) is a 673 amino acid protein that interacts with the PDZ domain of Shank 3. ProSAPiP1 expression is brain-specific with highest expression within the cerebellum, hippocampus and cerebral cortex.

## REFERENCES

1. Lim, S., et al. 1999. Characterization of the Shank family of synaptic proteins. Multiple genes, alternative splicing, and differential expression in brain and development. *J. Biol. Chem.* 274: 29510-29518.
2. Tobaben, S., et al. 2000. The G protein-coupled receptor CL1 interacts directly with proteins of the Shank family. *J. Biol. Chem.* 275: 36204-36210.
3. Sala, C., et al. 2001. Regulation of dendritic spine morphology and synaptic function by Shank and Homer. *Neuron* 31: 115-130.
4. Boeckers, T.M., et al. 2002. ProSAP/Shank proteins-a family of higher order organizing molecules of the postsynaptic density with an emerging role in human neurological disease. *J. Neurochem.* 81: 903-910.
5. Park, E., et al. 2003. The Shank family of postsynaptic density proteins interacts with and promotes synaptic accumulation of the  $\beta$ PIX guanine nucleotide exchange factor for Rac 1 and Cdc42. *J. Biol. Chem.* 278: 19220-19229.
6. Wendholt, D., et al. 2006. ProSAP-interacting protein 1 (ProSAPiP1), a novel protein of the postsynaptic density that links the spine-associated Rap-Gap (SPAR) to the scaffolding protein ProSAP2/Shank3. *J. Biol. Chem.* 281: 13805-13816.

## CHROMOSOMAL LOCATION

Genetic locus: ProSAPiP1 (human) mapping to 20p13.

## SOURCE

ProSAPiP1 (E-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ProSAPiP1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-85844 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

ProSAPiP1 (E-18) is recommended for detection of ProSAPiP1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], 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).

ProSAPiP1 (E-18) is also recommended for detection of ProSAPiP1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ProSAPiP1 siRNA (h): sc-76256, ProSAPiP1 shRNA Plasmid (h): sc-76256-SH and ProSAPiP1 shRNA (h) Lentiviral Particles: sc-76256-V.

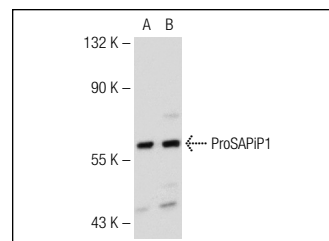
Molecular Weight of ProSAPiP1: 75 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812, SK-BR-3 cell lysate: sc-2218 or ES-2 cell lysate: sc-24674.

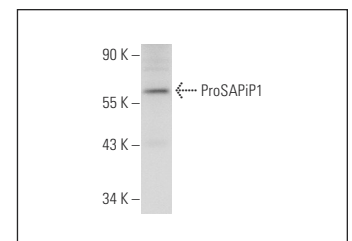
## RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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



ProSAPiP1 (E-18): sc-85844. Western blot analysis of ProSAPiP1 expression in SK-BR-3 (A) and ES-2 (B) whole cell lysates.



ProSAPiP1 (E-18): sc-85844. Western blot analysis of ProSAPiP1 expression in SH-SY5Y whole cell lysates.

## 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.