SANTA CRUZ BIOTECHNOLOGY, INC.

Syne-1 (3G2): sc-293465



Synaptic nuclear envelope protein-1 (Syne-1) is a member of the Golgi- and nuclear envelope-localized spectrin family, and it facilitates retrograde vesicular trafficking from the Golgi to the ER. Syne-1 is a 8,797 amino acid protein that contains several spectrin repeats similar to those in dystrophin and utrophin, two tandem calponin homology domains at its N-terminus, as well as a domain that is homologous to the C-terminal of Klarsicht, a *Drosophila* protein associated with nuclei and necessary for a few nuclear migrations. Syne-1 localizes to the Golgi apparatus and nuclear envelope until cytokinesis, when it migrates to the central spindle and midbody, where it functions together with KIF3B to assist the accumulation of the membrane vesicles at the spindle midbody.

REFERENCES

BACKGROUND

- Apel, E.D., Lewis, R.M., Grady, R.M. and Sanes, J.R. 2000. Syne-1, a dystrophin- and Klarsicht-related protein associated with synaptic nuclei at the neuromuscular junction. J. Biol. Chem. 275: 31986-31995.
- Zhang, Q., Skepper, J.N., Yang, F., Davies, J.D., Hegyi, L., Roberts, R.G., Weissberg, P.L., Ellis, J.A. and Shanahan, C.M. 2002. Nesprins: a novel family of spectrin- to the nuclear membrane in multiple tissues. J. Cell Sci. 114: 4485-4498.
- 3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608441. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
- Gough, L.L., Fan, J., Chu, S., Winnick, S. and Beck, K.A. 2003. Golgi localization of Syne-1. Mol. Biol. Cell 14: 2410-2424.
- Fan, J. and Beck, K.A. 2004. A role for the spectrin superfamily member Syne-1 and kinesin II in cytokinesis. J. Cell Sci. 117: 619-629.
- Gough, L.L. and Beck, K.A. 2004. The spectrin family member Syne-1 functions in retrograde transport from Golgi to ER. Biochim. Biophys. Acta 1693: 29-36.
- 7. Beck, K.A. 2005. Spectrins and the Golgi. Biochim. Biophys. Acta 1744: 374-382.
- Grady, R.M., Starr, D.A., Ackerman, G.L., Sanes, J.R. and Han, M. 2005. Syne proteins anchor muscle nuclei at the neuromuscular junction. Proc. Natl. Acad. Sci. USA 102: 4359-4364.
- Warren, D.T., Zhang, Q., Weissberg, P.L. and Shanahan, C.M. 2005. Nesprins: intracellular scaffolds that maintain cell architecture and co-ordinate cell function? Expert Rev. Mol. Med. 7: 1-15.

CHROMOSOMAL LOCATION

Genetic locus: SYNE1 (human) mapping to 6q25.1.

SOURCE

Syne-1 (3G2) is a mouse monoclonal antibody raised against amino acids 1561-1670 representing partial length Syne-1 of human origin.

PRODUCT

Each vial contains 100 μg lgG_3 kappa light chain in 1.0 ml of PBS with <0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Syne-1 (3G2) is recommended for detection of Syne-1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Syne-1 siRNA (h): sc-61628, Syne-1 shRNA Plasmid (h): sc-61628-SH and Syne-1 shRNA (h) Lentiviral Particles: sc-61628-V.

Molecular Weight of Syne-1: 112 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).

DATA



human recombinant Syne-1 fusion protein.

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 for detailed protocols and support products.