SANTA CRUZ BIOTECHNOLOGY, INC.

Syne-2 (C-1): sc-365097

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The Power to Question

BACKGROUND

Synaptic nuclear envelope protein 2 (Syne-2), also referred to as nesprin-2, is a 6,884 amino acid vertebrate protein that interacts with emerin and Lamin A at the nuclear envelope. Syne-2 is highly expressed in kidney, liver, stomach, placenta, spleen, lymphatic nodes and peripheral blood lymphocytes, but can be found in almost all types of cells. Syne-2 contains a C-terminal transmembrane domain (designated the KLS domain) linked by a spectrin-repeat rod domain, to an N-terminal paired, Actin-binding, calponin-homology domain. This structure suggests that Syne-2 is capable of mediating signaling between cell membranes and the cytoskeleton. The Syne-2 gene gives rise to many isoforms, which vary largely in size. Mutations in the Syne-2 gene may be linked to a broad range of human diseases, including laminopathies.

REFERENCES

1. Apel, E.D., et al. 2000. Syne-1, a dystrophin- and Klarsicht-related protein associated with synaptic nuclei at the neuromuscular junction. J. Biol. Chem. 275: 31986-31995.
2. Zhang, Q., et al. 2002. The nesprins are giant Actin-binding proteins, orthologous to *Drosophila melanogaster* muscle protein MSP-300. Genomics 80: 473-481.
3. Zhang, Q., et al. 2002. Nesprins: a novel family of spectrin-repeat-containing proteins that localize to the nuclear membrane in multiple tissues. J. Cell Sci. 114: 4485-4498.
4. Zhen, Y.Y., et al. 2002. NUANCE, a giant protein connecting the nucleus and Actin cytoskeleton. J. Cell Sci. 115: 3207-3222.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608442. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Libotte, T., et al. 2005. Lamin A/C-dependent localization of nesprin-2, a giant scaffolder at the nuclear envelope. Mol. Biol. Cell 16: 3411-3424.
7. Zhang, Q. et al. 2005. Nesprin-2 is a multi-isomeric protein that binds Lamin and emerin at the nuclear envelope and forms a subcellular network in skeletal muscle. J. Cell Sci. 118: 673-687.
8. Padmakumar, V.C., et al. 2005. The inner nuclear membrane protein Sun1 mediates the anchorage of nesprin-2 to the nuclear envelope. J. Cell Sci. 118: 3419-3430.

CHROMOSOMAL LOCATION

Genetic locus: SYNE2 (human) mapping to 14q23.2; Syne2 (mouse) mapping to 12 C3.

SOURCE

Syne-2 (C-1) is a mouse monoclonal antibody raised against amino acids 6554-6662 mapping near the C-terminus of Syne-2 of human origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Syne-2 (C-1) is available conjugated to agarose (sc-365097 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365097 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365097 PE), fluorescein (sc-365097 FITC), Alexa Fluor® 488 (sc-365097 AF488), Alexa Fluor® 546 (sc-365097 AF546), Alexa Fluor® 594 (sc-365097 AF594) or Alexa Fluor® 647 (sc-365097 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365097 AF680) or Alexa Fluor® 790 (sc-365097 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Syne-2 (C-1) is recommended for detection of Syne-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Syne-2 siRNA (h): sc-61630, Syne-2 siRNA (m): sc-61631, Syne-2 shRNA Plasmid (h): sc-61630-SH, Syne-2 shRNA Plasmid (m): sc-61631-SH, Syne-2 shRNA (h) Lentiviral Particles: sc-61630-V and Syne-2 shRNA (m) Lentiviral Particles: sc-61631-V.

Molecular Weight of Syne-2 isoforms: 75/400/800 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225, C6 whole cell lysate: sc-364373 or Neuro-2A whole cell lysate: sc-364185.

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.

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.