SANTA CRUZ BIOTECHNOLOGY, INC.

# Syne-2 (M-115): sc-99181

SANTA CRUZ BIOTECHNOLOGY

*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


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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, YY., 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 (mouse) mapping to 12 C3.

## SOURCE

Syne-2 (M-115) is a rabbit polyclonal antibody raised against amino acids 6486-6600 mapping near the C-terminus of Syne-2 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.

## APPLICATIONS

Syne-2 (M-115) is recommended for detection of Syne-2 of mouse and rat origin by Western Blotting (starting dilution 1:200, 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 (m): sc-61631, Syne-2 shRNA Plasmid (m): sc-61631-SH and Syne-2 shRNA (m) Lentiviral Particles: sc-61631-V.

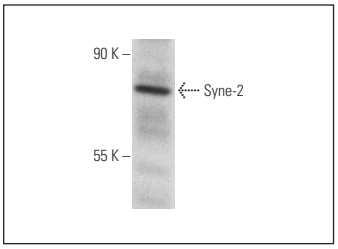
Molecular Weight of Syne-2 isoforms: 75/400/800 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA




Syne-2 (M-115): sc-99181. Western blot analysis of Syne-2 expression in KNRK whole cell lysate.

## 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.