

Syne-2 (F-11): sc-398616

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. 2001. Nesprins: a novel family of spectrin-repeat-containing proteins that localize to the nuclear membrane in multiple tissues. *J. Cell Sci.* 114: 4485-4498.
3. Zhang, Q., et al. 2002. The nesprins are giant Actin-binding proteins, orthologous to *Drosophila melanogaster* muscle protein MSP-300. *Genomics* 80: 473-481.
4. Zhen, Y.Y., et al. 2002. NUANCE, a giant protein connecting the nucleus and Actin cytoskeleton. *J. Cell Sci.* 115: 3207-3222.

CHROMOSOMAL LOCATION

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

SOURCE

Syne-2 (F-11) is a mouse monoclonal antibody raised against amino acids 6486-6600 mapping near the C-terminus of Syne-2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Syne-2 (F-11) is available conjugated to agarose (sc-398616 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398616 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398616 PE), fluorescein (sc-398616 FITC), Alexa Fluor® 488 (sc-398616 AF488), Alexa Fluor® 546 (sc-398616 AF546), Alexa Fluor® 594 (sc-398616 AF594) or Alexa Fluor® 647 (sc-398616 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398616 AF680) or Alexa Fluor® 790 (sc-398616 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

Syne-2 (F-11) 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.

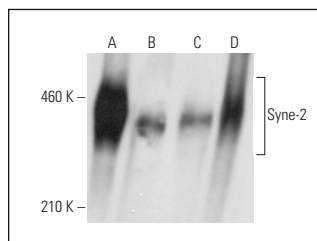
Molecular Weight of Syne-2 isoforms: 75/400/800 kDa.

Positive Controls: KNRK nuclear extract: sc-2141, F9 cell lysate: sc-2245 or AT3B-1 whole cell lysate: sc-364372.

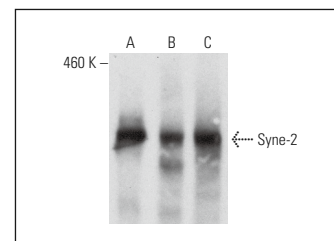
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BPHRP: sc-516102 or m-IgGκ BPHRP (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 BPHRP: sc-516140 or m-IgGκ BPHRP: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Syne-2 (F-11): sc-398616. Western blot analysis of Syne-2 expression in AT3B-1 (A), HEK293 (B) and F9 (C) whole cell lysates and KNRK nuclear extract (D).



Syne-2 (F-11): sc-398616. Western blot analysis of Syne-2 expression in PC-3 (A), A549 (B) and EOC 20 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Falk, N., et al. 2018. Functional analyses of Pericentrin and Syne-2 interaction in ciliogenesis. *J. Cell Sci.* 131: jcs218487.
2. Falk, N., et al. 2019. Lack of a retinal phenotype in a Syne-2/Nesprin-2 knockout mouse model. *Cells* 8: 1238.

STORAGE

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