

# Syne-4 (K-17): sc-241271

## BACKGROUND

C19orf46 (chromosome 19 open reading frame 46), also known as Nesprin-4, is a 404 amino acid single-pass type IV membrane protein that belongs to the nesprin family. Syne-4 participates in the establishment of secretory epithelial morphology by inducing kinesin-dependent apical migration of the centrosome and Golgi apparatus as well as basal localization of the nucleus. Syne-4 interacts with UKHC and KCL1, and exists as two alternatively spliced isoforms. Syne-4 contains a KASH domain, which consists of a transmembrane motif, mediates nuclear envelope targeting and binds to the SUN domain of SUN1 and SUN2. Syne-4 is encoded by a gene located on human chromosome 19, which consists of approximately 63 million bases and makes up over 2% of human genomic DNA.

## REFERENCES

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- Zhang, Q., et al. 2007. Nesprin-1 and -2 are involved in the pathogenesis of Emery Dreifuss muscular dystrophy and are critical for nuclear envelope integrity. *Hum. Mol. Genet.* 16: 2816-2833.
- Puckelwartz, M.J., et al. 2009. Disruption of nesprin-1 produces an Emery Dreifuss muscular dystrophy-like phenotype in mice. *Hum. Mol. Genet.* 18: 607-620.
- Lei, K., et al. 2009. SUN1 and SUN2 play critical but partially redundant roles in anchoring nuclei in skeletal muscle cells in mice. *Proc. Natl. Acad. Sci. USA* 106: 10207-10212.
- Roux, K.J., et al. 2009. Nesprin 4 is an outer nuclear membrane protein that can induce kinesin-mediated cell polarization. *Proc. Natl. Acad. Sci. USA* 106: 2194-2199.
- Haque, F., et al. 2010. Mammalian SUN protein interaction networks at the inner nuclear membrane and their role in laminopathy disease processes. *J. Biol. Chem.* 285: 3487-3498.
- Puckelwartz, M.J., et al. 2010. Nesprin-1 mutations in human and murine cardiomyopathy. *J. Mol. Cell. Cardiol.* 48 600-608.

## CHROMOSOMAL LOCATION

Genetic locus: SYNE4 (human) mapping to 19q13.12.

## SOURCE

Syne-4 (K-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of Syne-4 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-241271 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Syne-4 (K-17) is recommended for detection of Syne-4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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-4 siRNA (h): sc-97818, Syne-4 shRNA Plasmid (h): sc-97818-SH and Syne-4 shRNA (h) Lentiviral Particles: sc-97818-V.

Molecular Weight of Syne-4 predicted isoforms: 44/31 kDa.

## 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) 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.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.