

NKD2 (S-16): sc-163145

BACKGROUND

The canonical Wnt signaling pathway is a complex network of proteins involved in binding the Wnt ligand to the frizzled family of receptors, leading to activation of the Dvl proteins and, ultimately, a change in β -catenin concentration in the nucleus. NKD2 (naked cuticle homolog 2), also known as Naked2, is a 451 amino acid cell membrane protein belonging to the NKD family. Through interactions with Dvl-1, Dvl-2, Dvl-3 and PP2A-B72/B130, NKD2 functions as an autonomous antagonist of the classical Wnt signaling pathway and activates a second Wnt signaling pathway that controls planar cell polarity. NKD2 is required for processing of TGF α and for escorting TGF α to the basolateral membrane of polarized epithelial cells. NKD2 is a homolog of *Drosophila* naked cuticle, which negatively regulates canonical Wnt signaling by binding dishevelled.

REFERENCES

1. Rousset, R., et al. 2001. Naked cuticle targets dishevelled to antagonize Wnt signal transduction. *Genes Dev.* 15: 658-671.
2. Katoh, M. 2001. Molecular cloning, gene structure, and expression analyses of NKD1 and NKD2. *Int. J. Oncol.* 19: 963-969.
3. Yan, D., et al. 2001. Elevated expression of Axin2 and hnkcd mRNA provides evidence that Wnt/ β -catenin signaling is activated in human colon tumors. *Proc. Natl. Acad. Sci. USA* 98: 14973-14978.
4. Li, C., et al. 2004. Myristoylated Naked2 escorts transforming growth factor α to the basolateral plasma membrane of polarized epithelial cells. *Proc. Natl. Acad. Sci. USA* 101: 5571-5576.
5. Hu, T., et al. 2006. Structural studies of human Naked2: a biologically active intrinsically unstructured protein. *Biochem. Biophys. Res. Commun.* 350: 911-915.
6. Van Raay, T.J., et al. 2007. Zebrafish Naked1 and Naked2 antagonize both canonical and non-canonical Wnt signaling. *Dev. Biol.* 309: 151-168.
7. Li, C., et al. 2007. Naked2 acts as a cargo recognition and targeting protein to ensure proper delivery and fusion of TGF α containing exocytic vesicles at the lower lateral membrane of polarized MDCK cells. *Mol. Biol. Cell* 18: 3081-3093.
8. Cao, Z., et al. 2008. Use of fluorescence-activated vesicle sorting for isolation of Naked2-associated, basolaterally targeted exocytic vesicles for proteomics analysis. *Mol. Cell Proteomics* 7: 1651-1667.

CHROMOSOMAL LOCATION

Genetic locus: Nkd2 (mouse) mapping to 13 C1.

SOURCE

NKD2 (S-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NKD2 of mouse 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 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-163145 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NKD2 (S-16) is recommended for detection of NKD2 of mouse and rat 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); non cross-reactive with NKD1.

Suitable for use as control antibody for NKD2 siRNA (m): sc-149991, NKD2 shRNA Plasmid (m): sc-149991-SH and NKD2 shRNA (m) Lentiviral Particles: sc-149991-V.

Molecular Weight of NKD2 isoforms: 50/34 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.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.