SANTA CRUZ BIOTECHNOLOGY, INC.

NKD2 (L-24): sc-133824

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 TGFα and for escorting TGFα 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 hnkd 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 TGFα 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 (human) mapping to 5p15.33.

SOURCE

NKD2 (L-24) is an affinity purified rabbit polyclonal antibody raised against synthetic NKD2 peptide of human origin.

PRODUCT

Each vial contains 50 µg IgG in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

NKD2 (L-24) is recommended for detection of NKD2 of human 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for NKD2 siRNA (h): sc-91818, NKD2 shRNA Plasmid (h): sc-91818-SH and NKD2 shRNA (h) Lentiviral Particles: sc-91818-V.

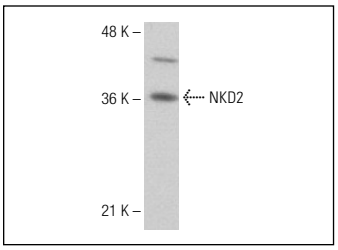
Molecular Weight of NKD2 isoforms: 50/34 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

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).

DATA



NKD2 (L-24): sc-133824. Western blot analysis of NKD2 expression in Jurkat 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.

PROTOCOLS

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