SANTA CRUZ BIOTECHNOLOGY, INC.

KIF21A (N-13): sc-48565

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The kinesin superfamily proteins (KIFs) are microtubule-dependent molecular motors that transport membranous organelles and protein complexes in a microtubule- and ATP-dependent manner. Cells use KIFs to tightly control the direction, destination and speed of transportation of a variety of important functional molecules, including mRNA. KIF21A is a 1,674 amino acid protein that contains three characteristic kinesin domains: an N-terminal head motor domain, a coiled-coil stalk region and a C-terminal tail. KIF21A is expressed in all nervous system tissues. Missense mutations in in the KIF21A gene lead to congenital fibrosis of the extraocular muscles type 1 (CFEOM1). CFEOM1 refers to a group of congenital eye movement disorders characterized by non-progressive ophthalmoplegia that affects all of the extraocular muscles.

REFERENCES

1. Nakagawa, T., et al. 1997. Identification and classification of 16 new kinesin superfamily (KIF) proteins in mouse genome. Proc. Natl. Acad. Sci. USA 94: 9654-9659.
2. Miki, H., et al. 2001. All kinesin superfamily protein, KIF, genes in mouse and human. Proc. Natl. Acad. Sci. USA 98: 7004-7011.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608283. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Yamada, K., et al. 2003. Heterozygous mutations of the kinesin KIF21A in congenital extraocular muscles type 1 (CFEOM1). Nat. Genet. 35: 318-321.
6. Traboulsi, E. and Engle, E. 2004. Mutations in KIF21A are responsible for CFEOM1 worldwide. Ophthalmic Genet. 25: 237-239.
5. Tiab, L., et al. 2004. Mutation analysis of KIF21A in congenital fibrosis of the extraocular muscles (CFEOM) patients. Ophthalmic Genet. 25: 241-246.

CHROMOSOMAL LOCATION

Genetic locus: KIF21A (human) mapping to 12q12; Kif21a (mouse) mapping to 15 E3.

SOURCE

KIF21A (N-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of KIF21A 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-48565 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

KIF21A (N-13) is recommended for detection of KIF21A of mouse, rat and 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

KIF21A (N-13) is also recommended for detection of KIF21A in additional species, including bovine and porcine.

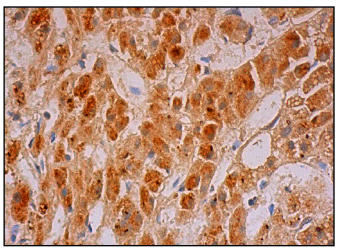
Suitable for use as control antibody for KIF21A siRNA (h): sc-60886, KIF21A siRNA (m): sc-60887, KIF21A shRNA Plasmid (h): sc-60886-SH, KIF21A shRNA Plasmid (m): sc-60887-SH, KIF21A shRNA (h) Lentiviral Particles: sc-60886-V and KIF21A shRNA (m) Lentiviral Particles: sc-60887-V.

Molecular Weight of KIF21A: 187 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



KIF21A (N-13): sc-48565. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells.

PROTOCOLS

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