SANTA CRUZ BIOTECHNOLOGY, INC.

KIF19 (E-12): sc-107661

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The kinesins constitute a large family of microtubule-dependent motor proteins, which are responsible for the distribution of numerous organelles, vesicles and macromolecular complexes throughout the cell. Kinesins also play crucial roles in cell division, intracellular transport and membrane trafficking events including endocytosis and transcytosis. Belonging to the Kinesin-like protein family, KIF19 is a 998 amino acid protein that contains one kinesin-motor domain, a domain that creates force in order to bind and move on microtubules. The gene encoding KIF19 maps to human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes. There are three isoforms of KIF19 that are produced as a result of alternative splicing events.

REFERENCES

1. Vallee, R.B., et al. 1990. Motor proteins of cytoplasmic microtubules. Annu. Rev. Biochem. 59: 909-932.
2. Endow, S.A. 1991. The emerging kinesin family of microtubule motor proteins. Trends Biochem. Sci. 16: 221-225.
3. Bloom, G.S., et al. 1995. Motor proteins 1: kinesins. Protein Profile 2: 1105-1171.
4. Brady, S.T. 1995. A kinesin medley: biochemical and functional heterogeneity. Trends Cell Biol. 5: 159-164.
5. Sablin, E.P., et al. 1996. Crystal structure of the motor domain of the kinesin-related motor ncd. Nature 380: 555-559.
6. Kozielski, F., et al. 1997. The crystal structure of dimeric kinesin and implications for microtubule-dependent motility. Cell 91: 985-994.
7. Vinogradova, M.V., et al. 2008. Structural dynamics of the microtubule binding and regulatory elements in the kinesin-like calmodulin binding protein. J. Struct. Biol. 163: 76-83.
8. Wang, X., et al. 2009. The mechanism of Ca^{2+} -dependent regulation of kinesin-mediated mitochondrial motility. Cell 136: 163-174.

CHROMOSOMAL LOCATION

Genetic locus: KIF19 (human) mapping to 17q25.1; Kif19a (mouse) mapping to 11 E2.

SOURCE

KIF19 (E-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of KIF19 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-107661 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

KIF19 (E-12) is recommended for detection of KIF19 of mouse, rat and human 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)], 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).

KIF19 (E-12) is also recommended for detection of KIF19 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for KIF19 siRNA (h): sc-94096, KIF19 siRNA (m): sc-146469, KIF19 shRNA Plasmid (h): sc-94096-SH, KIF19 shRNA Plasmid (m): sc-146469-SH, KIF19 shRNA (h) Lentiviral Particles: sc-94096-V and KIF19 shRNA (m) Lentiviral Particles: sc-146469-V.

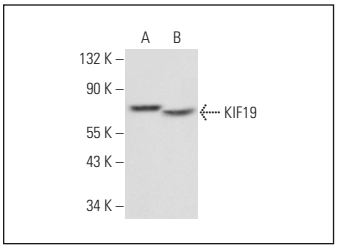
Molecular Weight of KIF19 isoforms: 11/62/57 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or human tonsil tissue extract: sc-364263.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



KIF19 (E-12): sc-107661. Western blot analysis of KIF19 expression in Jurkat whole cell lysate (**A**) and human tonsil tissue extract (**B**).

STORAGE

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

PROTOCOLS

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