# SANTA CRUZ BIOTECHNOLOGY, INC.

# KIF19 (J-23): sc-133708



# 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 Kinesinlike protein family, KIF19 is a 998 amino acid protein that contains one kinesinmotor 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. and Shpetner, H.S. 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. and Endow, S.A. 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., Kull, F.J., Cooke, R., Vale, R.D. and Fletterick, R.J. 1996. Crystal structure of the motor domain of the kinesin-related motor ncd. Nature 380: 555-559.
- 6. Kozielski, F., Sack, S., Marx, A., Thormählen, M., Schönbrunn, E., Biou, V., Thompson, A., Mandelkow, E.M. and Mandelkow, E. 1997. The crystal structure of dimeric kinesin and implications for microtubule-dependent motility. Cell 91: 985-994.
- 7. Vinogradova, M.V., Malanina, G.G., Reddy, V.S., Reddy, A.S. and Fletterick, R.J. 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. and Schwarz, T.L. 2009. The mechanism of Ca<sup>2+</sup> -dependent regulation of kinesin-mediated mitochondrial motility. Cell 136: 163-174.

# CHROMOSOMAL LOCATION

Genetic locus: KIF19 (human) mapping to 17q25.1.

#### SOURCE

KIF19 (J-23) is an affinity purified rabbit polyclonal antibody raised against synthetic KIF19 peptide of human origin.

# PRODUCT

Each vial contains 50  $\mu$ g IgG in 500  $\mu$ I PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

#### **APPLICATIONS**

KIF19 (J-23) is recommended for detection of KIF19 of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

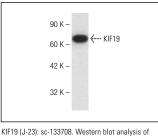
Molecular Weight of KIF19 isoforms: 11/62/57 kDa.

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 antirabbit 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



KIF19 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.