

Kinectin 1 (A-12): sc-374577

BACKGROUND

The kinesin family of motor proteins comprise at least two forms of conventional kinesin, which are encoded by different genes and designated as ubiquitous kinesin, which is expressed in all cells and tissues, and neuronal kinesin, which is expressed exclusively in neuronal cells. The motor protein kinesin is a heterotetramer composed of two heavy chains and two light chains. While the kinesin heavy chain contains the motor activity, evidence suggests that the kinesin light chain is involved in either modulation of kinesin heavy chain activity or in cargo binding. Kinesin-driven vesicle motility is dependent upon kinectin 1, a kinesin-binding protein. Kinectin 1, also known as kinesin receptor, is an integral membrane protein in the ER. Despite the kinesin-kinectin 1 interaction, a great deal of debate surrounds the involvement of kinectin 1 in microtubule-dependent transport.

REFERENCES

1. Kumar, J., Yu, H. and Sheetz, M.P. 1995. Kinectin, an essential anchor for kinesin-driven vesicle motility. *Science* 267: 1834-1837.
2. Vignali, G., Lizier, C., Sprocati, M.T., Sirtori, C., Battaglia, G. and Navone, F. 1997. Expression of neuronal kinesin heavy chain is developmentally regulated in the central nervous system of the rat. *J. Neurochem.* 69: 1840-1849.
3. Diefenbach, R.J., Mackay, J.P., Armati, P.J. and Cunningham, A.L. 1998. The C-terminal region of the stalk domain of ubiquitous human kinesin heavy chain contains the binding site for kinesin light chain. *Biochemistry* 37: 16663-16670.
4. Rahman, A., Friedman, D.S. and Goldstein, L.S. 1998. Two kinesin light chain genes in mice. Identification and characterization of the encoded proteins. *J. Biol. Chem.* 273: 15395-15403.
5. Rahman, A., Kamal, A., Roberts, E.A. and Goldstein, L.S. 1999. Defective kinesin heavy chain behavior in mouse kinesin light chain mutants. *J. Cell Biol.* 146: 1277-1288.
6. Vancoillie, G., Lambert, J., Mulder, A., Koerten, H.K., Mommaas, A.M., Van Oostveldt, P. and Naeyaert, J.M. 2000. Kinesin and kinectin can associate with the melanosomal surface and form a link with microtubules in normal human melanocytes. *J. Invest. Dermatol.* 114: 421-429.

CHROMOSOMAL LOCATION

Genetic locus: KTN1 (human) mapping to 14q22.3.

SOURCE

Kinectin 1 (A-12) is a mouse monoclonal antibody raised against amino acids 1156-1345 mapping near the C-terminus of Kinectin 1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₃ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

Kinectin 1 (A-12) is recommended for detection of Kinectin 1 isoforms 1 and 2 of human origin by Western Blotting (starting dilution 1:100, 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), 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).

Suitable for use as control antibody for Kinectin 1 siRNA (h): sc-43382, Kinectin 1 shRNA Plasmid (h): sc-43382-SH and Kinectin 1 shRNA (h) Lentiviral Particles: sc-43382-V.

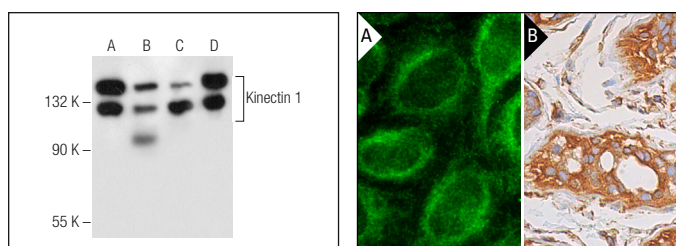
Molecular Weight of Kinectin 1: 160 kDa.

Positive Controls: human testis extract: sc-363781, human ovary extract: sc-363769 or human kidney extract: sc-363764.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Kinectin 1 (A-12): sc-374577. Western blot analysis of Kinectin 1 expression in human testis (A), human ovary (B) and human kidney (C) tissue extracts and SK-OV-3 whole cell lysate (D).

Kinectin 1 (A-12): sc-374577. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human sweat gland tissue showing cytoplasmic staining of glandular cells (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 for detailed protocols and support products.