

KIF3A (V-16): sc-18745

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. Individual kinesin members play crucial roles in cell division, intracellular transport, and membrane trafficking events including endocytosis and transcytosis. Members of the heterotrimeric kinesin II family of microtubule associated motors generally contain two different motor subunits from the KIF3 family, which includes KIF3A, B and C. KIF3 isoforms mediate anterograde transport of membrane bound organelles in neurons and melanosomes, transport between the endoplasmic reticulum and the Golgi, and transport of protein complexes within cilia and flagella required for their morphogenesis. KIF3A may influence neurogenesis at the level of embryonic cellular events, where the asymmetry of the genetic control circuit controlling left-right (L-R) axis determination is defined. Loss of KIF3A function in mice photoreceptors causes apoptotic cell death suggesting kinesin II mediated transport is required for proper cell fate.

REFERENCES

- Hamm-Alvarez, S.F. 1998 Molecular motors and their role in membrane traffic. *Adv. Drug Deliv. Rev.* 29: 229-242.
- Cole, D.G. 1999 Kinesin-II, the heteromeric kinesin. *Cell. Mol. Life Sci.* 56: 217-226.
- Marszalek, J.R., et al. 1999. Situs inversus and embryonic ciliary morphogenesis defects in mouse mutants lacking the KIF3A subunit of kinesin-II. *Proc. Natl. Acad. Sci. USA* 96: 5043-5048.

CHROMOSOMAL LOCATION

Genetic locus: KIF3A (human) mapping to 5q31.1; Kif3a (mouse) mapping to 11 B1.3.

SOURCE

KIF3A (V-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of KIF3A 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-18745 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.

PROTOCOLS

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

APPLICATIONS

KIF3A (V-16) is recommended for detection of KIF3A 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), 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).

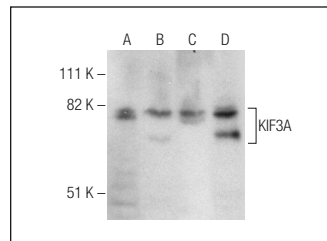
KIF3A (V-16) is also recommended for detection of KIF3A in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for KIF3A siRNA (h): sc-43374, KIF3A siRNA (m): sc-43375, KIF3A siRNA (r): sc-270301, KIF3A shRNA Plasmid (h): sc-43374-SH, KIF3A shRNA Plasmid (m): sc-43375-SH, KIF3A shRNA Plasmid (r): sc-270301-SH, KIF3A shRNA (h) Lentiviral Particles: sc-43374-V, KIF3A shRNA (m) Lentiviral Particles: sc-43375-V and KIF3A shRNA (r) Lentiviral Particles: sc-270301-V.

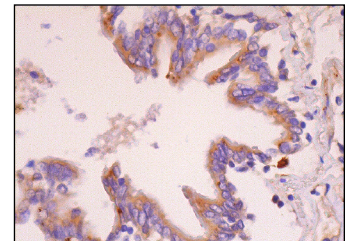
Molecular Weight of KIF3A: 77 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, PC-12 cell lysate: sc-2250 or T98G cell lysate: sc-2294.

DATA



KIF3A (V-16): sc-18745. Western blot analysis of KIF3A expression in NIH/3T3 (A), PC-12 (B) and T98G (C) whole cell lysates and mouse brain tissue extract (D).



KIF3A (V-16): sc-18745. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bronchus tissue showing cytoplasmic staining of respiratory epithelial cells.

RESEARCH USE

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



Try **KIF3A (E-5): sc-376680** or **KIF3A (28): sc-135960**, our highly recommended monoclonal alternatives to KIF3A (V-16).