SANTA CRUZ BIOTECHNOLOGY, INC.

KIF3A (H-155): sc-50457

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. 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 that kinesin II mediated transport is required for proper cell fate.

CHROMOSOMAL LOCATION

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

SOURCE

KIF3A (H-155) is a rabbit polyclonal antibody raised against amino acids 548-702 mapping at the C-terminus 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.

APPLICATIONS

KIF3A (H-155) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

KIF3A (H-155) 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.

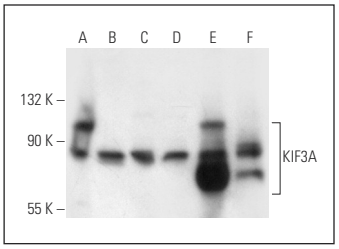
Molecular Weight of KIF3A: 77 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812, NIH/3T3 whole cell lysate: sc-2210 or PC-12 cell lysate: sc-2250.

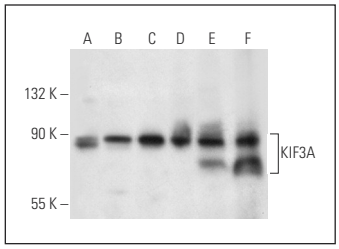
RECOMMENDED SECONDARY REAGENTS

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 anti-rabbit 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). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



KIF3A (H-155): sc-50457. Western blot analysis of KIF3A expression in SH-SY5Y (**A**), NIH/3T3 (**B**), PC-12 (**C**) and HeLa (**D**) whole cell lysates and human testis (**E**) and rat brain (**F**) tissue extracts.



KIF3A (H-155): sc-50457. Western blot analysis of KIF3A expression in ZR-75-1 (**A**), Jurkat (**B**), U-2 OS (**C**) and MDA-MB-435S (**D**) whole cell lysates and mouse brain (**E**) and mouse cerebellum (**F**) tissue extracts.

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.