

KIF18A (B-11): sc-398484

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. KIF18A (kinesin family member 18A), also designated MS-KIF18A, is a 898 amino acid protein that contains one kinesin-motor domain, which is responsible for the ATP-dependent movement of KIF18A across microtubules. KIF18A plays a role in chromosome congression by reducing the amplitude of pre-anaphase oscillations and slowing poleward movement during anaphase, thus suppressing chromosome movements. Expression of KIF18A is induced by estrogen.

REFERENCES

1. Luboshits, G. and Benayahu, D. 2005. MS-KIF18A, new kinesin; structure and cellular expression. *Gene* 351: 19-28.
2. Mayr, M.I., et al. 2007. The human kinesin KIF18A is a motile microtubule depolymerase essential for chromosome congression. *Curr. Biol.* 17: 488-498.
3. Luboshits, G. and Benayahu, D. 2007. MS-KIF18A, a kinesin, is associated with estrogen receptor. *J. Cell. Biochem.* 100: 693-702.
4. Stumpff, J., et al. 2008. The kinesin-8 motor KIF18A suppresses kinetochore movements to control mitotic chromosome alignment. *Dev. Cell* 14: 252-262.
5. Zusev, M. and Benayahu, D. 2008. New insights on cellular distribution, microtubule interactions and post-translational modifications of MS-KIF18A. *J. Cell. Physiol.* 217: 618-625.
6. Gardner, M.K., et al. 2008. Kinesin-8 molecular motors: putting the brakes on chromosome oscillations. *Trends Cell Biol.* 18: 307-310.
7. Zusev, M. and Benayahu, D. 2009. The regulation of MS-KIF18A expression and cross talk with estrogen receptor. *PLoS ONE* 4: e6407.
8. Du, Y., et al. 2010. The kinesin-8 KIF18A dampens microtubule plus-end dynamics. *Curr. Biol.* 20: 374-380.

CHROMOSOMAL LOCATION

Genetic locus: Kif18a (mouse) mapping to 2 E3.

SOURCE

KIF18A (B-11) is a mouse monoclonal antibody raised against amino acids 499-620 mapping within an internal region of KIF18A of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

KIF18A (B-11) is recommended for detection of KIF18A of mouse 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for KIF18A siRNA (m): sc-146467, KIF18A shRNA Plasmid (m): sc-146467-SH and KIF18A shRNA (m) Lentiviral Particles: sc-146467-V.

Molecular Weight of KIF18A: 100 kDa.

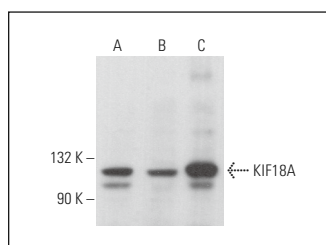
Positive Controls: WEHI-231 whole cell lysate: sc-2213, MM-142 cell lysate: sc-2246 or RAW 264.7 whole cell lysate: sc-2211.

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.

DATA



KIF18A (B-11): sc-398484. Western blot analysis of KIF18A expression in WEHI-231 (A), MM-142 (B) and RAW 264.7 (C) whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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