

# KAP3 (M-300): sc-33579

## BACKGROUND

The mouse kinesin superfamily-associated protein 3 (KAP3) and the human homolog KAP3A are globular proteins that function as linkers of chromosome associated proteins. The mouse gene encoding KAP3 generates an additional alternative isoform, from the insertion of a stop codon at the C-terminus, to produce a truncated KAP3 protein designated KAP3B. KAP3 was originally shown to associate with kinesin superfamily proteins, KIF3A and KIF3B, which function as an axonal motor for membranous organelle transport. The initial studies involving the human homolog of KAP3, also designated SMAP (for small G protein GDP dissociation stimulator (Smg GDS)-associated protein), indicated that KAP3 is an adaptor protein for Smg GDS and kinesin II and a kinase substrate for tyrosine phosphorylation by v-Src. Subsequent studies have shown that SMAP/KAP3A forms ternary complexes with HCAP (human chromosome-associated polypeptide), a member of the stability of mini-chromosomes family and KIF3A/B. Once formed, these complexes assist in the association of chromosomes with the spindle and in chromosome movement during interphase.

## REFERENCES

1. Yamazaki, H., Nakata, T., Okada, Y. and Hirokawa, N. 1995. KIF3A/B: a heterodimeric kinesin superfamily protein that works as a microtubule plus end-directed motor for membrane organelle transport. *J. Cell Biol.* 130: 1387-1399.
2. Henson, J.H., Cole, D.G., Terasaki, M., Rashid, D. and Scholey, J.M. 1995. Immunolocalization of the heterotrimeric kinesin-related protein KRP(85/95) in the mitotic apparatus of sea urchin embryos. *Dev. Biol.* 171: 182-194.
3. Shimizu, K., Kawabe, H., Minami, S., Honda, T., Takaishi, K., Shirataki, H. and Takai, Y. 1996. SMAP, an Smg GDS-associating protein having arm repeats and phosphorylated by Src tyrosine kinase. *J. Biol. Chem.* 271: 27013-27017.
4. Yamazaki, H., Nakata, T., Okada, Y. and Hirokawa, N. 1996. Cloning and characterization of KAP3: a novel kinesin superfamily-associated protein of KIF3A/3B. *Proc. Natl. Acad. Sci. USA* 93: 8443-8448.
5. Shimizu, K., Shirataki, H., Honda, T., Minami, S. and Takai, Y. 1998. Complex formation of SMAP/KAP3, a KIF3A/B ATPase motor-associated protein, with a human chromosome-associated polypeptide. *J. Biol. Chem.* 273: 6591-6594.

## CHROMOSOMAL LOCATION

Genetic locus: KIFAP3 (human) mapping to 1q24.2; Kifap3 (mouse) mapping to 1 H2.2.

## SOURCE

KAP3 (M-300) is a rabbit polyclonal antibody raised against amino acids 494-793 mapping at the C-terminus of KAP3 of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

KAP3 (M-300) is recommended for detection of KAP3A and KAP3B 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).

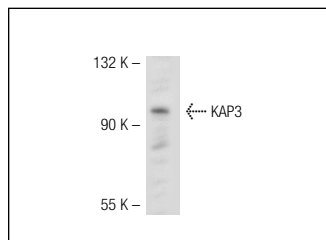
KAP3 (M-300) is also recommended for detection of KAP3A and KAP3B in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for KAP3 siRNA (h): sc-40721, KAP3 siRNA (m): sc-40722, KAP3 shRNA Plasmid (h): sc-40721-SH, KAP3 shRNA Plasmid (m): sc-40722-SH, KAP3 shRNA (h) Lentiviral Particles: sc-40721-V and KAP3 shRNA (m) Lentiviral Particles: sc-40722-V.

Molecular Weight of KAP3: 95 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, KNRK nuclear extract: sc-2141 or A-431 nuclear extract: sc-2122.

## DATA



KAP3 (M-300): sc-33579. Western blot analysis of KAP3 expression in HeLa nuclear extract.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.


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Try **KAP3 (D-6): sc-55598** or **KAP3 (D-10): sc-374384**, our highly recommended monoclonal alternatives to KAP3 (M-300).