

KID (E-10): sc-166814

BACKGROUND

KID (kinesin-like DNA-binding protein) is a nuclear protein that belongs to the kinesin-like protein family. KID is involved in spindle formation and the movements of chromosomes during mitosis and meiosis by binding to microtubules in addition to DNA. The N-terminal half of KID contains the kinesin-like motor domain; there is a helix-hairpin-helix DNA-binding domain at its C-terminus. It has been reported that the subcellular localization of KID changes dramatically during cell division.

REFERENCES

1. Tokai, N., et al. 1996. KID, a novel kinesin-like DNA binding protein, is localized to chromosomes and the mitotic spindle. *EMBO J.* 15: 457-467.
2. Song, J., et al. 1998. Human genes for KNSL4 and MAZ are located close to one another on chromosome 16p11.2. *Genomics* 52: 374-377.
3. Germani, A., et al. 2000. SIAH-1 interacts with α Tubulin and degrades the kinesin KID by the proteasome pathway during mitosis. *Oncogene* 19: 5997-6006.
4. Funabiki, H. and Murray, A.W. 2000. The *Xenopus* chromokinesin Xkid is essential for metaphase chromosome alignment and must be degraded to allow anaphase chromosome movement. *Cell* 102: 411-424.
5. Yajima, J., et al. 2003. The human chromokinesin KID is a plus end-directed microtubule-based motor. *EMBO J.* 22: 1067-1074.
6. Shiroguchi, K., et al. 2003. The second microtubule-binding site of monomeric KID enhances the microtubule affinity. *J. Biol. Chem.* 278: 22460-22465.
7. Tahara, K., et al. 2008. Importin β and the small guanosine triphosphatase Ran mediate chromosome loading of the human chromokinesin KID. *J. Cell Biol.* 180: 493-506.

CHROMOSOMAL LOCATION

Genetic locus: KIF22 (human) mapping to 16p11.2; Kif22 (mouse) mapping to 7 F3.

SOURCE

KID (E-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 205-240 within an internal region of KID of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-166814 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

KID (E-10) is recommended for detection of Kinesin-like DNA-binding protein of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 KID siRNA (h): sc-44350, KID siRNA (m): sc-45228, KID siRNA (r): sc-156170, KID shRNA Plasmid (h): sc-44350-SH, KID shRNA Plasmid (m): sc-45228-SH, KID shRNA Plasmid (r): sc-156170-SH, KID shRNA (h) Lentiviral Particles: sc-44350-V, KID shRNA (m) Lentiviral Particles: sc-45228-V and KID shRNA (r) Lentiviral Particles: sc-156170-V.

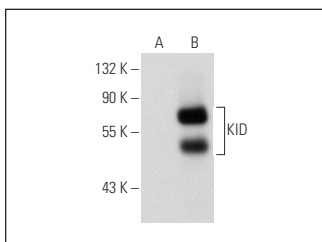
Molecular Weight of KID: 66 kDa.

Positive Controls: NIH/3T3 nuclear extract: sc-2138, KID (h): 293T Lysate: sc-114788 or MCF7 nuclear extract: sc-2149.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



KID (E-10): sc-166814. Western blot analysis of KID expression in non-transfected: sc-117752 (A) and human KID transfected: sc-114788 (B) 293T whole cell lysates.

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.