

SKAP (E-19): sc-245337

BACKGROUND

Interactions between kinetochore and spindle microtubules play a critical role in chromosome segregation during mitosis. SKAP (small kinetochore associated protein), also known as KNSTRN (kinetochore-localized astrin/SPAG5 binding protein), HSD11, SKAP or TRAF4AF1, is a 316 widely expressed nuclear and cytoplasmic protein that is an essential component of the mitotic spindle. Required for chromosome alignment during mitosis, SKAP regulates metaphase-to-anaphase transition, promotes normal timing of sister chromatid segregation and maintains spindle pole architecture. SKAP forms a complex with SPAG5 localizes to microtubule ends and stabilizes microtubule-kinetochore attachments. Mutations in the gene encoding SKAP may lead to cutaneous squamous cell carcinomas, a malignancy of the skin. SKAP is encoded by a gene located on human chromosome 15q15.1 and exists as three alternatively spliced isoforms. SKAP is down-regulated by nitric oxide.

REFERENCES

1. Turpaev, K., et al. 2005. Analysis of differentially expressed genes in nitric oxide-exposed human monocytic cells. *Free Radic. Biol. Med.* 38: 1392-1400.
2. Fang, L., et al. 2009. SKAP associates with kinetochores and promotes the metaphase-to-anaphase transition. *Cell Cycle* 8: 2819-2827.
3. Burkard, T.R., et al. 2011. Initial characterization of the human central proteome. *BMC Syst. Biol.* 5 : 17.
4. Dunsch, A.K., et al. 2011. The astrin-kinastrin/SKAP complex localizes to microtubule plus ends and facilitates chromosome alignment. *J. Cell Biol.* 192: 959-968.
5. Huang, Y., et al. 2012. CENP-E kinesin interacts with SKAP protein to orchestrate accurate chromosome segregation in mitosis. *J. Biol. Chem.* 287: 1500-1509.
6. Wang, X., et al. 2012. Mitotic regulator SKAP forms a link between kinetochore core complex KMN and dynamic spindle microtubules. *J. Biol. Chem.* 287: 39380-39390.
7. Lee, C.S., et al. 2014. Recurrent point mutations in the kinetochore gene KNSTRN in cutaneous squamous cell carcinoma. *Nat. Genet.* 46: 1060-1062.
8. Lu, S., et al. 2014. Small kinetochore associated protein (SKAP) promotes UV-induced cell apoptosis through negatively regulating pre-mRNA processing factor 19 (Prp19). *PLoS ONE* 9: e92712.

CHROMOSOMAL LOCATION

Genetic locus: KNSTRN (human) mapping to 15q15.1.

SOURCE

SKAP (E-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SKAP of human origin.

STORAGE

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

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-245337 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SKAP (E-19) is recommended for detection of SKAP of 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).

Suitable for use as control antibody for SKAP siRNA (h): sc-90222, SKAP shRNA Plasmid (h): sc-90222-SH and SKAP shRNA (h) Lentiviral Particles: sc-90222-V.

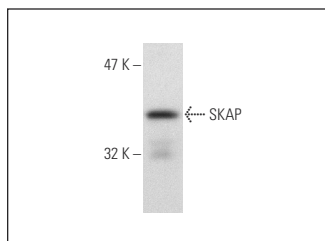
Molecular Weight of SKAP: 35 kDa.

Positive Controls: IMR-32 nuclear extract: sc-2148.

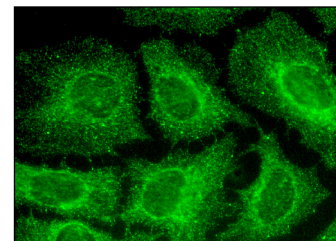
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



SKAP (E-19): sc-245337. Western blot analysis of SKAP expression in IMR-32 nuclear extract.



SKAP (E-19): sc-245337. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization.

RESEARCH USE

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