SANTA CRUZ BIOTECHNOLOGY, INC.

SKAP (F-11): sc-514112

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: KNSTRN (human) mapping to 15q15.1; Knstrn (mouse) mapping to 2 E5.

SOURCE

SKAP (F-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 81-106 within an internal region of SKAP of mouse origin.

PRODUCT

Each vial contains 200 µg IgM 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-514112 P, (100 µg 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

SKAP (F-11) is recommended for detection of SKAP of mouse, rat and human 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 SKAP siRNA (h): sc-90222, SKAP siRNA (m): sc-142808, SKAP shRNA Plasmid (h): sc-90222-SH, SKAP shRNA Plasmid (m): sc-142808-SH, SKAP shRNA (h) Lentiviral Particles: sc-90222-V and SKAP shRNA (m) Lentiviral Particles: sc-142808-V.

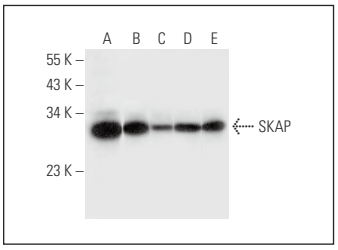
Molecular Weight of SKAP: 35 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, RAW 264.7 nuclear extract: sc-24961 or F9 cell lysate: sc-2245.

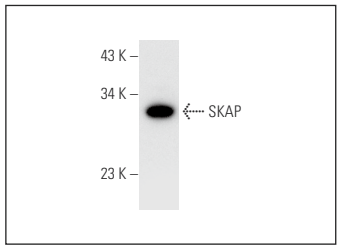
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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



SKAP (F-11): sc-514112. Western blot analysis of SKAP expression in RAW 264.7 (**A**), F9 (**B**), CSMLO (**C**) and NIH/3T3 (**D**) whole cell lysates and NIH/3T3 nuclear extract (**E**).



SKAP (F-11): sc-514112. Western blot analysis of SKAP expression in RAW 264.7 nuclear extract.

SELECT PRODUCT CITATIONS

1. Qin, B., et al. 2022. Phosphorylation of small kinetochore-associated protein induced by GSK3β promotes cell migration and invasion in esophageal cancer. Cell Cycle 21: 972-983.

STORAGE

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