SANTA CRUZ BIOTECHNOLOGY, INC.

Ska3 (B-1): sc-390326

BACKGROUND

Ska3, also designated C13orf3 or RAMA1, is a 412 amino acid protein that belongs to the RAMA1 family of proteins. A component of the SKA1 complex, Ska3 localizes to the outer kinetochore and spindle microtubules during mitosis. The SKA1 complex is a microtubule-binding subcomplex of the outer kinetochore and is composed of two Ska1-Ska2 heterodimers, each heterodimer interacting with a Ska3 homodimer. Within the complex, which is important for chromosome segregation and facilitates microsphere movement along microtubules, Ska3 acts as a mediator of microtubule-stimulated oligomerization. The gene encoding for Ska3 maps to chromosome 13. Comprising nearly 4% of human DNA, chromosome 13 contains around 114 million base pairs and 400 genes. Key tumor suppressor genes on chromosome 13 include the breast cancer susceptibility gene, BRCA2, and the RB1 (retinoblastoma) gene. RB1 encodes a crucial tumor suppressor protein which, when defective, leads to malignant growth in the retina and has been implicated in a variety of other cancers. The gene SLITRK1, which is associated with Tourette syndrome, is on chromosome 13. As with most chromosomes, polysomy of part or all of chromosome 13 is deleterious to development and decreases the odds of survival. Trisomy 13, also known as Patau syndrome, is quite deadly and the few who survive past one year suffer from permanent neurologic defects, difficulty eating and vulnerability to serious respiratory infections.

CHROMOSOMAL LOCATION

Genetic locus: SKA3 (human) mapping to 13q12.11; Ska3 (mouse) mapping to 14 C3.

SOURCE

Ska3 (B-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 154-166 within an internal region of Ska3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Ska3 (B-1) is available conjugated to agarose (sc-390326 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390326 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390326 PE), fluorescein (sc-390326 FITC), Alexa Fluor® 488 (sc-390326 AF488), Alexa Fluor® 546 (sc-390326 AF546), Alexa Fluor® 594 (sc-390326 AF594) or Alexa Fluor® 647 (sc-390326 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390326 AF680) or Alexa Fluor® 790 (sc-390326 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390326 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

Ska3 (B-1) is recommended for detection of Ska3 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).

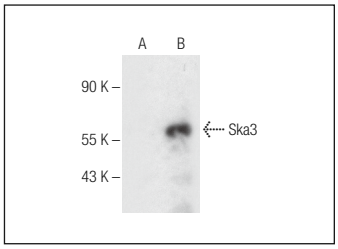
Ska3 (B-1) is also recommended for detection of Ska3 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for Ska3 siRNA (h): sc-105145, Ska3 siRNA (m): sc-144992, Ska3 shRNA Plasmid (h): sc-105145-SH, Ska3 shRNA Plasmid (m): sc-144992-SH, Ska3 shRNA (h) Lentiviral Particles: sc-105145-V and Ska3 shRNA (m) Lentiviral Particles: sc-144992-V.

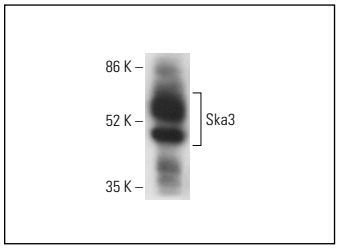
Molecular Weight of Ska3: 46 kDa.

Positive Controls: Ska3 (h): 293T Lysate: sc-371164 or HeLa whole cell lysate: sc-2200.

DATA



Ska3 (B-1): sc-390326. Western blot analysis of Ska3 expression in non-transfected: sc-117752 (**A**) and human Ska3 transfected: sc-371164 (**B**) 293T whole cell lysates.



Ska3 (B-1): sc-390326. Western blot analysis of Ska3 expression in HeLa whole cell lysate. Detection reagent used: m-IgG_1 BP-HRP: sc-525408.

SELECT PRODUCT CITATIONS

1. Thomas, G.E., et al. 2016. EB1 regulates attachment of Ska1 with microtubules by forming extended structures on the microtubule lattice. Nat. Commun. 7: 11665.
2. Conti, D., et al. 2019. Kinetochores attached to microtubule-ends are stabilised by Astrin bound PP1 to ensure proper chromosome segregation. Elife 8: e49325.
3. Roscioli, E., et al. 2020. Ensemble-level organization of human kinetochores and evidence for distinct tension and attachment sensors. Cell Rep. 31: 107535.
4. Gomes, A.M., et al. 2022. Micronuclei from misaligned chromosomes that satisfy the spindle assembly checkpoint in cancer cells. Curr. Biol. 32: 4240-4254.e5.

STORAGE

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