SANTA CRUZ BIOTECHNOLOGY, INC.

Ska3 (E-10): sc-390910

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 13q12.11. 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.

REFERENCES

1. Dunham, A., et al. 2004. The DNA sequence and analysis of human chromosome 13. Nature 428: 522-528.
2. Deng, H., et al. 2006. Examination of the SLITRK1 gene in Caucasian patients with Tourette syndrome. Acta Neurol. Scand. 114: 400-402.
3. Giacinti, C. and Giordano, A. 2006. RB and cell cycle progression. Oncogene 25: 5220-5227.
4. Grados, M.A. and Walkup, J.T. 2006. A new gene for Tourette's syndrome: a window into causal mechanisms? Trends Genet. 22: 291-293.
5. Bugge, M., et al. 2007. Non-disjunction of chromosome 13. Hum. Mol. Genet. 16: 2004-2010.
6. Hall, H.E., et al. 2007. The origin of trisomy 13. Am. J. Med. Genet. A 143A: 2242-2248.
7. Hassler, M., et al. 2007. Crystal structure of the retinoblastoma protein N domain provides insight into tumor suppression, ligand interaction and holoprotein architecture. Mol. Cell 28: 371-385.

CHROMOSOMAL LOCATION

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

SOURCE

Ska3 (E-10) is a mouse monoclonal antibody raised against amino acids 112-411 mapping at the C-terminus of Ska3 of mouse origin.

RESEARCH USE

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

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.

APPLICATIONS

Ska3 (E-10) 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).

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.

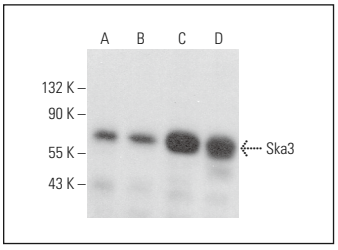
Molecular Weight of Ska3: 46 kDa.

Positive Controls: Ska3 (h): 293T Lysate: sc-371164, Jurkat whole cell lysate: sc-2204 or CCRF-CEM cell lysate: sc-2225.

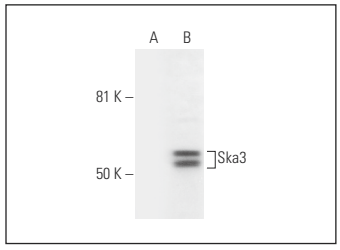
RECOMMENDED SUPPORT REAGENTS

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 A/G PLUS-Agarose: sc-2003 (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



Ska3 (E-10): sc-390910. Western blot analysis of Ska3 expression in Jurkat (**A**), CCRF-CEM (**B**), BYDP (**C**) and RAW 264.7 (**D**) whole cell lysates.



Ska3 (E-10): sc-390910. Western blot analysis of Ska3 expression in non-transfected: sc-117752 (**A**) and human Ska3 transfected: sc-371164 (**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.