SANTA CRUZ BIOTECHNOLOGY, INC.

STAU2 (S-35): sc-101144

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

STAU2 (staufen, RNA-binding protein, homolog 2), also known as 39K2 or 39K3, is one of two vertebrate homologs of the *Drosophila* protein staufen, an RNA-binding protein that mediates mRNA transport during *Drosophila* oogenesis and zygotic development. Expressed predominantly in brain tissue and throughout neuronal development, STAU2 belongs to the double-stranded RNA-binding protein family and is believed to shuttle between the nucleus and the cytoplasm, facilitating the microtubule-dependent delivery of neuronal RNA to dendrites of polarized neurons. In addition, STAU2 can be found in ribonucleoprotein particles (RNPs) that move along microtubules into dendrites. Interference of STAU2 expression in mature neurons leads to a significant reduction in dendritic spines. This suggests that STAU2 is essential for the proper formation and maintenance of dendritic spines. Due to alternative splicing events, STAU2 exists as five different isoforms.

REFERENCES

1. Duchaine, T.F., et al. 2002. Staufen2 isoforms localize to the somatodendritic domain of neurons and interact with different organelles. J. Cell Sci. 115: 3285-3295.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605920. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Macchi, P., et al. 2004. The brain-specific double-stranded RNA-binding protein staufen2: nucleolar accumulation and isoform-specific Exportin 5-dependent export. J. Biol. Chem. 279: 31440-31444.
4. Miki, T. and Yoneda, Y. 2004. Alternative splicing of staufen2 creates the nuclear export signal for CRM1 (Exportin 1). J. Biol. Chem. 279: 47473-47479.
5. Monshausen, M., et al. 2004. The mammalian RNA-binding protein staufen2 links nuclear and cytoplasmic RNA processing pathways in neurons. Neuromolecular Med. 6: 127-144.
6. Miki, T., et al. 2005. The role of mammalian staufen on mRNA traffic: a view from its nucleocytoplasmic shuttling function. Cell Struct. Funct. 30: 51-56.

CHROMOSOMAL LOCATION

Genetic locus: STAU2 (human) mapping to 8q21.11; Stau2 (mouse) mapping to 1 A3.

SOURCE

STAU2 (S-35) is a mouse monoclonal antibody raised against recombinant STAU2 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa lght chainin 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

STAU2 (S-35) is recommended for detection of STAU2 of mouse, rat and 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for STAU2 siRNA (h): sc-77731, STAU2 siRNA (m): sc-153882, STAU2 shRNA Plasmid (h): sc-77731-SH, STAU2 shRNA Plasmid (m): sc-153882-SH, STAU2 shRNA (h) Lentiviral Particles: sc-77731-V and STAU2 shRNA (m) Lentiviral Particles: sc-153882-V.

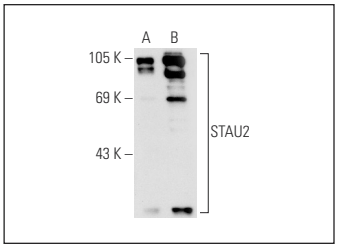
Molecular Weight of STAU2: 63 kDa.

Positive Controls: STAU2 (h2): 293T Lysate: sc-172655 or IMR-32 cell lysate: sc-2409.

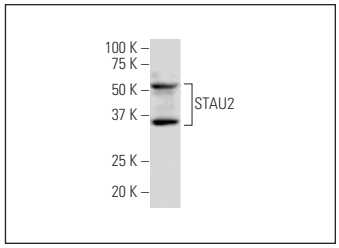
RECOMMENDED SUPPORT REAGENTS

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).

DATA



STAU2 (S-35): sc-101144. Western blot analysis of STAU2 expression in non-transfected: sc-117752 (**A**) and human STAU2 transfected: sc-172655 (**B**) 293T whole cell lysates.



STAU2 (S-35): sc-101144. Western blot analysis of STAU2 expression in IMR-32 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Iavello, A., et al. 2016. Role of alix in miRNA packaging during extracellular vesicle biogenesis. Int. J. Mol. Med. 37: 958-966.
2. Rajasekaran, S., et al. 2022. PUMILIO competes with AUF1 to control DICER1 RNA levels and miRNA processing. Nucleic Acids Res. 50: 7048-7066.

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.