

STAU2 (K-18): sc-87440

BACKGROUND

STAU2 (staußen, RNA-binding protein, homolog 2), also known as 39K2 or 39K3, is one of two vertebrate homologs of the *Drosophila* protein staußen, 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. Staußen2 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 staußen2: 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 staußen2 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 staußen2 links nuclear and cytoplasmic RNA processing pathways in neurons. *Neuromolecular Med.* 6: 127-144.
6. Miki, T., et al. 2005. The role of mammalian staußen 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 (K-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of STAU2 of human origin.

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-87440 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

STAU2 (K-18) 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), 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); non cross-reactive with STAU2-5.

STAU2 (K-18) is also recommended for detection of STAU2 in additional species, including equine, canine, bovine and porcine.

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: IMR-32 cell lysate: sc-2409.

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) 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.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **STAU2 (S-35): sc-101144**, our highly recommended monoclonal alternative to STAU2 (K-18).