

STAU2 (h2): 293T Lysate: sc-172655

BACKGROUND

STAU2 (staufer, RNA-binding protein, homolog 2), also known as 39K2 or 39K3, is one of two vertebrate homologs of the *Drosophila* protein staufer, 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. Staufer2 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 staufer2: 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 staufer2 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 staufer2 links nuclear and cytoplasmic RNA processing pathways in neurons. *Neuromolecular Med.* 6: 127-144.
6. Miki, T., et al. 2005. The role of mammalian staufer 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.

PRODUCT

STAU2 (h2): 293T Lysate represents a lysate of human STAU2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

STAU2 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive STAU2 antibodies. Recommended use: 10-20 µl per lane.

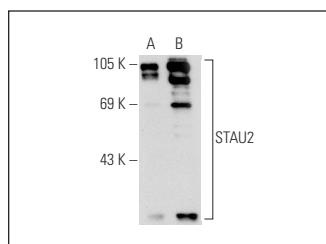
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STAU2 (S-35): sc-101144 is recommended as a positive control antibody for Western Blot analysis of enhanced human STAU2 expression in STAU2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

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.

RESEARCH USE

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