SANTA CRUZ BIOTECHNOLOGY, INC.

PIPPIN (m): 293T Lysate: sc-122591

BACKGROUND

PIPPIN, also known as CSDC2 (cold shock domain containing C2, RNA binding), is a Y-box protein (also called cold-shock (CSD) domain-containing protein) and belongs to a family of highly conserved RNA-binding transcriptional regulators. Predominantly expressed in brain cells and localizing to the nucleus and the cytoplasm, PIPPIN contains two RNA-binding motifs, namely PIP1 and PIP2, and one CSD domain. PIPPIN functions as a nucleic acid binding regulatory factor and is believed to participate in brain maturation. More specifically, PIPPIN binds to the 3'-UTR ends of the mRNAs encoding Histone H1 and Histone H3.3. This interaction requires all of the PIPPIN domains to work in concert as one functional protein. In addition, PIPPIN can be sumoylated in a thyroid hormone (T3)-dependent manner. This suggests that PIPPIN modification in response to extracellular stimuli may modulate the regulation of protein synthesis.

REFERENCES

1. Castiglia, D., Scaturro, M., Nastasi, T., Cestelli, A. and Di Liegro, I. 1996. PIPPIN, a putative RNA-binding protein specifically expressed in the rat brain. Biochem. Biophys. Res. Commun. 218: 390-394.
2. Nastasi, T., Scaturro, M., Bellafiore, M., Raimondi, L., Beccari, S., Cestelli, A. and di Liegro, I. 1999. PIPPIN is a brain-specific protein that contains a cold-shock domain and binds specifically to H1 degrees and H3.3 mRNAs. J. Biol. Chem. 274: 24087-24093.
3. Nastasi, T., Muzi, P., Beccari, S., Bellafiore, M., Dolo, V., Bologna, M., Cestelli, A. and Di Liegro, I. 2000. Specific neurons of brain cortex and cerebellum are PIPPIN positive. Neuroreport 11: 2233-2236.
4. Schäfer, C., Steffen, H., Krzykowski, K.J., Göke, B. and Groblewski, G.E. 2003. CRHSP-24 phosphorylation is regulated by multiple signaling pathways in pancreatic acinar cells. Am. J. Physiol. Gastrointest. Liver Physiol. 285: G726-G734.
5. Raimondi, L., D'Asaro, M., Proia, P., Nastasi, T. and Di Liegro, I. 2003. RNA-binding ability of PIPPIN requires the entire protein. J. Cell. Mol. Med. 7: 35-42.
6. Cannino, G., Di Liegro, C.M., Di Liegro, I. and Rinaldi, A.M. 2004. Analysis of cytochrome C oxidase subunits III and IV expression in developing rat brain. Neuroscience 128: 91-98.
7. Auld, G.C., Campbell, D.G., Morrice, N. and Cohen, P. 2005. Identification of calcium-regulated heat-stable protein of 24 kDa (CRHSP24) as a physiological substrate for PKB and RSK using KESTREL. Biochem. J. 389: 775-783.
8. Bono, E., Compagno, V., Proia, P., Raimondi, L., Schiera, G., Favaloro, V., Campo, V., Donatelli, M. and Di Liegro, I. 2007. Thyroid hormones induce sumoylation of the cold shock domain-containing protein PIPPIN in developing rat brain and in cultured neurons. Endocrinology 148: 252-257.
9. Place, R.F., Li, L.C., Pookot, D., Noonan, E.J. and Dahiya, R. 2008. MicroRNA-373 induces expression of genes with complementary promoter sequences. Proc. Natl. Acad. Sci. USA 105: 1608-1613.

CHROMOSOMAL LOCATION

Genetic locus: Csdc2 (mouse) mapping to 15 E1.

PRODUCT

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

APPLICATIONS

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

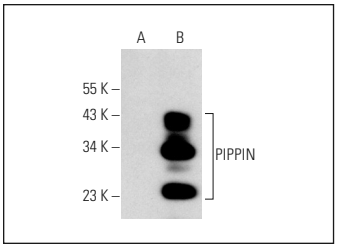
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

PIPPIN (473.1): sc-101108 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse PIPPIN expression in PIPPIN 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



PIPPIN (473.1): sc-101108. Western blot analysis of PIPPIN expression in non-transfected: sc-117752 (**A**) and mouse PIPPIN transfected: sc-122591 (**B**) 293T whole cell lysates.

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.

RESEARCH USE

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

PROTOCOLS

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