

# PIPPIN (H-40): sc-292608

## 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., et al. 1996. PIPPIN, a putative RNA-binding protein specifically expressed in the rat brain. *Biochem. Biophys. Res. Commun.* 218: 390-394.
2. Nastasi, T., et al. 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., et al. 2000. Specific neurons of brain cortex and cerebellum are PIPPIN positive. *Neuroreport* 11: 2233-2236.
4. Schäfer, C., et al 2003. CRHSP-24 phosphorylation is regulated by multiple signaling pathways in pancreatic acinar cells. *Am. J. Physiol. Gastrointest. Liver Physiol.* 285: 726-734.
5. Raimondi, L., et al. 2003. RNA-binding ability of PIPPIN requires the entire protein. *J. Cell. Mol. Med.* 7: 35-42.
6. Cannino, G., et al. 2004. Analysis of cytochrome C oxidase subunits III and IV expression in developing rat brain. *Neuroscience* 128: 91-98.
7. Auld, G.C., et al. 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., et al. 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.

## CHROMOSOMAL LOCATION

Genetic locus: CSDC2 (human) mapping to 22q13.2; *Csdc2* (mouse) mapping to 15 E1.

## SOURCE

PIPPIN (H-40) is a rabbit polyclonal antibody raised against amino acids 11-50 mapping near the N-terminus of PIPPIN 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.

## APPLICATIONS

PIPPIN (H-40) is recommended for detection of PIPPIN 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)], 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).

PIPPIN (H-40) is also recommended for detection of PIPPIN in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for PIPPIN siRNA (h): sc-76146, PIPPIN siRNA (m): sc-152270, PIPPIN shRNA Plasmid (h): sc-76146-SH, PIPPIN shRNA Plasmid (m): sc-152270-SH, PIPPIN shRNA (h) Lentiviral Particles: sc-76146-V and PIPPIN shRNA (m) Lentiviral Particles: sc-152270-V.

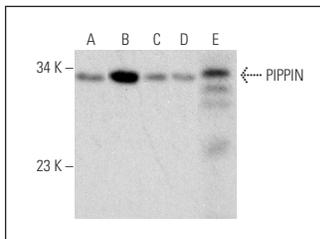
Molecular Weight of PIPPIN: 35 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, mouse brain extract: sc-2253 or HeLa nuclear extract: sc-2120.

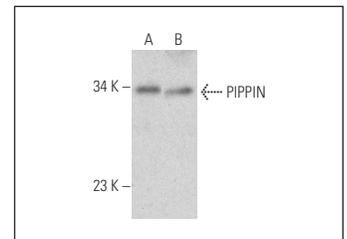
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



PIPPIN (H-40): sc-292608. Western blot analysis of PIPPIN expression in Y79 (A), Jurkat (B), COLO 320DM (C) and IMR-32 (D) nuclear extracts and mouse brain tissue extract (E).



PIPPIN (H-40): sc-292608. Western blot analysis of PIPPIN expression in HeLa (A) and MDA-MB-231 (B) nuclear extracts.

## 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.