

PTBP-2 (YY-12): sc-101183

BACKGROUND

PTBP-2 (polypyrimidine tract-binding protein-2), also known as PTB or nPTB (neural polypyrimidine tract-binding protein), is a member of the polypyrimidine tract-binding family of proteins. Predominantly expressed in brain, but also found in heart and skeletal muscle, PTBP-2 localizes to the nucleus and contains four RRM (RNA recognition motif) domains. PTBP-2 functions as an RNA-binding protein associated in a complex that is involved in the regulation of exon splicing and the stabilization of mRNAs in the cytoplasm. Six isoforms exist for PTBP-2 due to alternative splicing events. Isoforms 1 and 2 (also known as nPTB1 and nPTB2/PTBPLP-L, respectively) are neuronal-specific. Isoforms 3 and 4 (also known as nPTB3/PTBPLP-L and nPTB4, respectively) are found in non-neuronal tissues, as are isoforms 5 and 6 (also known as nPTB5/nPTB7/PTBPLP-S and nPTB6/nPTB8/PTBPLP-S, respectively). The existence of various isoforms may function to modulate the RNA-binding properties of PTBP-2.

REFERENCES

1. Markovtsov, V., et al. 2000. Cooperative assembly of an hnRNP complex induced by a tissue-specific homolog of polypyrimidine tract-binding protein. *Mol. Cell. Biol.* 20: 7463-7479.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608449. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Rahman, L., et al. 2004. Evolutionary conservation of a 2 kb intronic sequence flanking a tissue-specific alternative exon in the PTBP2 gene. *Genomics* 83: 76-84.
4. Xu, M. and Hecht, N.B. 2007. Polypyrimidine tract-binding protein-2 stabilizes phosphoglycerate kinase 2 mRNA in murine male germ cells by binding to its 3'UTR. *Biol. Reprod.* 76: 1025-1033.
5. Coutinho-Mansfield, G.C., et al. 2007. PTB/nPTB switch: a posttranscriptional mechanism for programming neuronal differentiation. *Genes Dev.* 21: 1573-1577.
6. Boutz, P.L., et al. 2007. A posttranscriptional regulatory switch in polypyrimidine tract-binding proteins reprograms alternative splicing in developing neurons. *Genes Dev.* 21: 1636-1652.
7. Makeyev, E.V., et al. 2007. The microRNA miR-124 promotes neuronal differentiation by triggering brain-specific alternative pre-mRNA splicing. *Mol. Cell* 27: 435-448.

CHROMOSOMAL LOCATION

Genetic locus: PTBP2 (human) mapping to 1p21.3; Ptb2 (mouse) mapping to 3 G1.

SOURCE

PTBP-2 (YY-12) is a mouse monoclonal antibody raised against recombinant PTBP-2 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PTBP-2 (YY-12) is recommended for detection of PTBP-2 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 PTBP-2 siRNA (h): sc-78824, PTBP-2 siRNA (m): sc-106461, PTBP-2 shRNA Plasmid (h): sc-78824-SH, PTBP-2 shRNA Plasmid (m): sc-106461-SH, PTBP-2 shRNA (h) Lentiviral Particles: sc-78824-V and PTBP-2 shRNA (m) Lentiviral Particles: sc-106461-V.

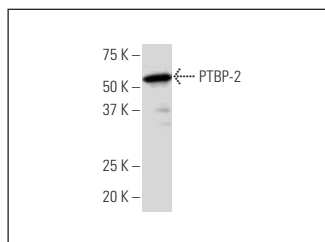
Molecular Weight of PTBP-2: 60 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, Y79 nuclear extract: sc-2126 or Y79 cell lysate: sc-2240.

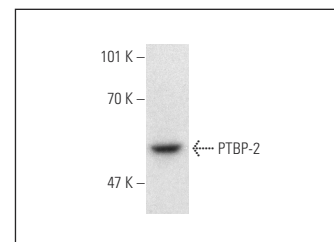
RECOMMENDED SUPPORT REAGENTS

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



PTBP-2 (YY-12): sc-101183. Western blot analysis of PTBP-2 expression in IMR-32 whole cell lysate.



PTBP-2 (YY-12): sc-101183. Western blot analysis of PTBP-2 expression in Y79 nuclear extract.

SELECT PRODUCT CITATIONS

1. Hendrickson, D.G., et al. 2009. Concordant regulation of translation and mRNA abundance for hundreds of targets of a human microRNA. *PLoS Biol.* 7: e1000238.

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.