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PTRH2 (E-7): sc-518195

BACKGROUND

PTRH2 (peptidyl-tRNA hydrolase 2), also known as BIT1 (Bcl-2 inhibitor of transcription 1), is a 179 amino acid mitochondrial protein. During apoptosis, PTRH2 is released from the mitochondria to the cytoplasm. Once in the cytoplasm, PTRH2 regulates the function of two transcriptional regulators, TLE5 and TLE1, thereby promoting caspase-independent cell death. It is also believed that the natural substrate for PTRH2 may be peptidyl-tRNAs, which leave the ribosomes during protein synthesis. PTRH2 is a monomer that contains a N-terminal mitochondrial localization signal and a C-terminal UPF0099 domain.

REFERENCES

- Lai, C.H., et al. 2000. Identification of novel human genes evolutionarily conserved in *Caenorhabditis elegans* by comparative proteomics. *Genome Res.* 10: 703-713.
- Jan, Y., et al. 2004. A mitochondrial protein, Bit1, mediates apoptosis regulated by integrins and Groucho/TLE corepressors. *Cell* 116: 751-762.
- De Pereda, J.M., et al. 2004. Crystal structure of a human peptidyl-tRNA hydrolase reveals a new fold and suggests basis for a bifunctional activity. *J. Biol. Chem.* 279: 8111-8115.
- Gonzalez de Valdivia, E.I. and Isaksson, L.A. 2005. Abortive translation caused by peptidyl-tRNA drop-off at NGG codons in the early coding region of mRNA. *FEBS J.* 272: 5306-5316.
- Selvaraj, M., et al. 2006. Cloning, expression, purification, crystallization and preliminary X-ray analysis of peptidyl-tRNA hydrolase from *Mycobacterium tuberculosis*. *Acta Crystallogr. Sect. F Struct. Biol. Cryst. Commun.* 62: 913-915.
- Ishii, T., et al. 2006. Yeast Pth2 is a UBL domain-binding protein that participates in the ubiquitin-proteasome pathway. *EMBO J.* 25: 5492-5503.

CHROMOSOMAL LOCATION

Genetic locus: PTRH2 (human) mapping to 17q23.1.

SOURCE

PTRH2 (E-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 143-155 near the C-terminus of PTRH2 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PTRH2 (E-7) is available conjugated to agarose (sc-518195 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518195 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518195 PE), fluorescein (sc-518195 FITC), Alexa Fluor® 488 (sc-518195 AF488), Alexa Fluor® 546 (sc-518195 AF546), Alexa Fluor® 594 (sc-518195 AF594) or Alexa Fluor® 647 (sc-518195 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518195 AF680) or Alexa Fluor® 790 (sc-518195 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

PTRH2 (E-7) is recommended for detection of PTRH2 of human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for PTRH2 siRNA (h): sc-76295, PTRH2 shRNA Plasmid (h): sc-76295-SH and PTRH2 shRNA (h) Lentiviral Particles: sc-76295-V.

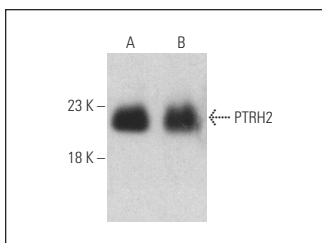
Molecular Weight of PTRH2: 20 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or K-562 whole cell lysate: sc-2203.

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



PTRH2 (E-7): sc-518195. Western blot analysis of PTRH2 expression in Hep G2 (A) and K-562 (B) whole cell lysates. Detection reagent used: m-IgG₁ BP-HRP: sc-525408.

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 for detailed protocols and support products.