

PTRF (4): sc-136300

BACKGROUND

The termination of transcription by RNA polymerase I (Pol I) requires the involvement of several proteins, including TTF-1 (thyroid transcription factor-1) which pauses transcription, thus allowing the Pol I complex to dissociate and release the subsequent pre-rRNA. PTRF (polymerase I and transcript release factor), also known as FKSG13, is a 390 amino acid protein that is required for the dissociation of the transcription complex. Localized to various places within the cell, including the cell membrane, microsomes, nucleus and cytoplasm, PTRF binds the 3' end of pre-rRNA while simultaneously interacting with Pol I and TTF-1, thus allowing the Pol I complex to release from the template. Three isoforms of PTRF are expressed due to alternative splicing events.

REFERENCES

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- Jansa, P., et al. 1998. Cloning and functional characterization of PTRF, a novel protein which induces dissociation of paused ternary transcription complexes. *EMBO J.* 17: 2855-2864.
- Hasegawa, T., et al. 2000. PTRF (polymerase I and transcript-release factor) is tissue-specific and interacts with the BFCOL1 (binding factor of a type-I collagen promoter) zinc-finger transcription factor which binds to the two mouse type-I collagen gene promoters. *Biochem. J.* 347: 55-59.
- Jansa, P., et al. 2001. The transcript release factor PTRF augments ribosomal gene transcription by facilitating reinitiation of RNA polymerase I. *Nucleic Acids Res.* 29: 423-429.
- Aboulaich, N., et al. 2004. Vectorial proteomics reveal targeting, phosphorylation and specific fragmentation of polymerase I and transcript release factor (PTRF) at the surface of caveolae in human adipocytes. *Biochem. J.* 383: 237-248.
- Vinten, J., et al. 2005. Identification of a major protein on the cytosolic face of caveolae. *Biochim. Biophys. Acta* 1717: 34-40.
- Aboulaich, N., et al. 2006. Association and Insulin regulated translocation of hormone-sensitive lipase with PTRF. *Biochem. Biophys. Res. Commun.* 350: 657-661.

CHROMOSOMAL LOCATION

Genetic locus: PTRF (human) mapping to 17q21.31; Ptrf (mouse) mapping to 11 D.

SOURCE

PTRF (4) is a mouse monoclonal antibody raised against amino acids 157-272 of PTRF of mouse origin.

STORAGE

Store at 4°C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 50 µg IgG₁ in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol, and 0.04% BSA.

APPLICATIONS

PTRF (4) is recommended for detection of PTRF 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 immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for PTRF siRNA (h): sc-76293, PTRF siRNA (m): sc-76294, PTRF shRNA Plasmid (h): sc-76293-SH, PTRF shRNA Plasmid (m): sc-76294-SH, PTRF shRNA (h) Lentiviral Particles: sc-76293-V and PTRF shRNA (m) Lentiviral Particles: sc-76294-V.

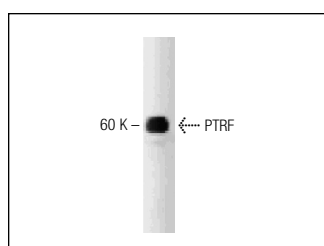
Molecular Weight of PTRF: 44 kDa.

Positive Controls: rat kidney extract: sc-2394 or NIH/3T3 whole cell lysate: sc-2210.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PTRF (4): sc-136300. Western blot analysis of PTRF expression in rat kidney tissue extract.

RESEARCH USE

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

PROTOCOLS

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