

PTRF (O-24): sc-133934

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, microsome, 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.
- Hill, M.M., et al. 2008. PTRF-Cavin, a conserved cytoplasmic protein required for caveola formation and function. *Cell* 132: 113-124.

CHROMOSOMAL LOCATION

Genetic locus: *Ptrf* (mouse) mapping to 11 D.

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.

SOURCE

PTRF (O-24) is a Protein A purified rabbit polyclonal antibody raised against synthetic PTRF peptide of mouse origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

PTRF (O-24) is recommended for detection of PTRF of mouse 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 PTRF siRNA (m): sc-76294, PTRF shRNA Plasmid (m): sc-76294-SH and PTRF shRNA (m) Lentiviral Particles: sc-76294-V.

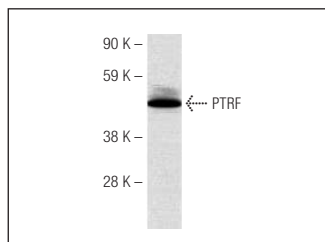
Molecular Weight of PTRF: 44 kDa.

Positive Controls: 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-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).

DATA



PTRF (O-24): sc-133934. Western blot analysis of PTRF expression in NIH/3T3 whole cell lysate.

PROTOCOLS

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