# PTRF (C-20): sc-82326



The Power to Question

## **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 TFF-1, thus allowing the Pol I complex to release from the template. Three isoforms of PTRF are expressed due to alternative splicing events.

## **REFERENCES**

- Mason, S.W., Sander, E.E. and Grummt, I. 1997. Identification of a transcript release activity acting on ternary transcription complexes containing murine RNA polymerase I. EMBO J. 16: 163-172.
- Jansa, P., Mason, S.W., Hoffmann-Rohrer, U. and Grummt, I. 1998. Cloning and functional characterization of PTRF, a novel protein which induces dissociation of paused ternary transcription complexes. EMBO J. 17: 2855-2864.
- 3. Hasegawa, T., Takeuchi, A., Miyaishi, O., Xiao, H., Mao, J. and Isobe, K. 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., Burek, C., Sander, E.E. and Grummt, I. 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., Vainonen, J.P., Str\u00e4lfors, P. and Vener, A.V. 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., Johnsen, A.H., Roepstorff, P., Harpøth, J. and Tranum-Jensen, J. 2005. Identification of a major protein on the cytosolic face of caveolae. Biochim. Biophys. Acta 1717: 34-40.
- 7. Aboulaich, N., Ortegren, U., Vener, A.V. and Strålfors, P. 2006. Association and Insulin regulated translocation of hormone-sensitive lipase with PTRF. Biochem. Biophys. Res. Commun. 350: 657-661.
- 8. Hill, M.M., Bastiani, M., Luetterforst, R., Kirkham, M., Kirkham, A., Nixon, S.J., Walser, P., Abankwa, D., Oorschot, V.M., Martin, S., Hancock, J.F. and Parton, R.G. 2008. PTRF-cavin, a conserved cytoplasmic protein required for caveola formation and function. Cell 132: 113-124.
- 9. Chadda, R. and Mayor, S. 2008. PTRF triggers a cave in. Cell 132: 23-24.

## **CHROMOSOMAL LOCATION**

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

#### **SOURCE**

PTRF (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PTRF of human origin.

## **PRODUCT**

Each vial contains 200  $\mu g$  lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-82326 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-82326 X, 200  $\mu$ g/0.1 ml.

## **APPLICATIONS**

PTRF (C-20) 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), 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 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.

PTRF (C-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of PTRF: 44 kDa.

# **RECOMMENDED SECONDARY REAGENTS**

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

#### **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 or our catalog for detailed protocols and support products.

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3801 Fax 831.457.3801 Europe +00800 4573 8000 49 6221 4503 0 www.scbt.com