SANTA CRUZ BIOTECHNOLOGY, INC.

TTP (P-20): sc-12563

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Tristetraprolin (TTP), also known as Nup475 and TIS11, is a zinc-binding protein encoded by the immediate-early response gene, ZFP36. Stimulation of quiescent fibroblasts by mitogens, including platelet derived growth factor and fibroblast growth factor, results in the serine phosphorylation of TTP and the rapid redistribution of the protein from the nucleus to the cytoplasm. *In vitro* studies have demonstrated that TTP is phosphorylated by p42 MAP kinase, indicating that the activity of TTP may be regulated by the MAP kinase pathway *in vitro*. Knockout mice deficient in TTP develop autoimmunity, inflammatory arthritis and dermatitis. These conditions can be reversed by blocking the activity of the inflammatory mediator, tumor necrosis factor-α (TNF-α), suggesting that TTP may function to negatively regulate the expression of TNF-α.

REFERENCES

1. Taylor, G.A., et al. 1991. The human TTP protein: sequence, alignment with related proteins, and chromosomal localization of the mouse and human genes. Nucleic Acids Res. 19: 3454.
2. Kaneda, N., et al. 1992. Sequence of a rat TIS11 cDNA, an immediate early gene induced by growth factors and phorbol esters. Gene 118: 289-291.
3. Taylor, G.A., et al. 1995. Phosphorylation of tristetraprolin, a potential zinc-finger transcription factor, by mitogen stimulation in intact cells and by mitogen-activated protein kinase *in vitro*. J. Biol. Chem. 270: 13341-13347.
4. Taylor, G.A., et al. 1996. A pathogenetic role for TNF α in the syndrome of cachexia, arthritis, and autoimmunity resulting from tristetraprolin (TTP) deficiency. Immunity 4: 445-454.
5. Taylor, G.A., et al. 1996. Mitogens stimulate the rapid nuclear to cytosolic translocation of tristetraprolin, a potential zinc-finger transcription factor. Mol. Endocrinol. 10: 140-146.

CHROMOSOMAL LOCATION

Genetic locus: ZFP36 (human) mapping to 19q13.2; Zfp36 (mouse) mapping to 7 A3.

SOURCE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-12563 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

TTP (P-20) is recommended for detection of TTP 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

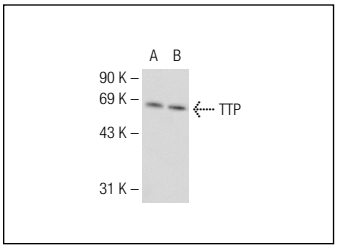
TTP (P-20) is also recommended for detection of TTP in additional species, including bovine.

Suitable for use as control antibody for TTP siRNA (h): sc-36760, TTP siRNA (m): sc-36761, TTP shRNA Plasmid (h): sc-36760-SH, TTP shRNA Plasmid (m): sc-36761-SH, TTP shRNA (h) Lentiviral Particles: sc-36760-V and TTP shRNA (m) Lentiviral Particles: sc-36761-V.

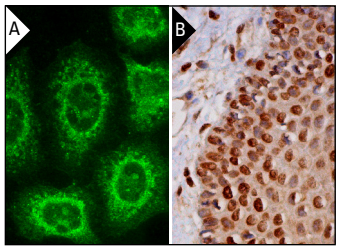
Molecular Weight of TTP: 44 kDa.

Positive Controls: TTP (h): 293T Lysate: sc-178098, RAW 309 Cr.1 cell lysate: sc-3814 or RAW 309 Cr.1 + LPS cell lysate: sc-24770.

DATA



TTP (P-20): sc-12563. Western blot analysis of TTP expression in non-transfected : sc-117752 (**A**) and human TTP transfected: sc-178098 (**B**) 293T whole cell lysates.



TTP (P-20): sc-12563. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human oral mucosa tissue showing nuclear and cytoplasmic staining of squamous epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Sawaoka, H., et al. 2003. Tristetraprolin binds to the 3'-untranslated region of cyclooxygenase-2 mRNA. A polyadenylation variant in a cancer cell line lacks the binding site. J. Biol. Chem. 278: 13928-13935.
2. Kim, T.W., et al. 2010. Tristetraprolin regulates the stability of HIF-1α mRNA during prolonged hypoxia. Biochem. Biophys. Res. Commun. 391: 963-968.
3. Günther, J., et al. 2010. Stimulated expression of TNF-α and IL-8, but not of lingual antimicrobial peptide reflects the concentration of pathogens contacting bovine mammary epithelial cells. Vet. Immunol. Immunopathol. 135: 152-157.