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Product Information

Anti-TTP (N-terminal)
produced in rabbit, affinity isolated antibody

Catalog Number **T5327**

Product Description

Anti-TTP (N-terminal) is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acids 51-67 of human TTP (GeneID: 7538) conjugated to KLH. The corresponding sequence differs by one amino acid in mouse and rat. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-TTP (N-terminal) specifically recognizes human TTP. Applications include immunoblotting (~50 kDa) and immunoprecipitation. Staining of the TTP band in immunoblotting is specifically inhibited with the immunizing peptide.

TTP (also known as Tristetraproline, Zfp-36, TIS11A, and Growth factor-inducible nuclear protein NUP475) is an RNA-binding protein that suppresses inflammation by accelerating the degradation of cytokine mRNA. TTP belongs to a family of human ARE (AU-rich element found in 3' UTR mRNA) binding protein that contains tandem CCCH zinc finger RNA-binding domains required for interaction with ARE. ARE sequences function as instability elements that promote mRNA degradation.[1] TTP mRNA is widely distributed among tissue types, with a higher expression level in spleen, lymph nodes, and thymus. [2] In activated monocytes and T lymphocytes, it regulates the expression of tumor necrosis factor α (TNF-α) by binding to a conserved AU rich element within the 3' UTR of TNF-α mRNA. TTP promotes both mRNA deadenylation and 3' to 5' degradation of the mRNA body consistent with its ability to recruit several factors involved in these processes. Mice lacking TTP spontaneously develop erosive arthritis, cachexia, dermatitis, and myeloid hyperplasia.[3, 4] TTP is a phosphoprotein reported to be a substrate for multiple kinases including ERK, JNK, p38, and MAPKAPK2. The role of phosphorylation in regulating TTP function is unclear.[4] The p38 signal transduction pathway is required for the expression of TTP protein and mRNA.

Following LPS stimulation, TTP is expressed in multiple, differentially phosphorylated forms, a process which is mediated by MAPKAPK2. Stimulation of RAW264 with LPS induces the binding of TTP to the TNF-a 3' UTR.[5]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working antibody concentration of 0.5-1 µg/mL is recommended using lysates of RAW264 cells induced with 10 ng/mL LPS for two hours.

Immunoprecipitation: a working antibody amount of 5-10 µL is recommended using lysates of RAW264 cells induced with 10 ng/mL LPS for two hours.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

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2. Lai, W.S., et al., *J. Biol. Chem*., **265**, 16556-16563 (1990).
3. Brook, M., et al., *Mol. Cell. Biol*., **26**, 2408-2418 (2006).
4. Rigby, W.F., et al., *J. Immunol*., **174,** 7883-7893 (2005).
5. Mahtani K.R., et al., *Mol. Cell. Biol*., **21**, 6461-6469 (2001).

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