

TUTase (N-16): sc-162364

BACKGROUND

TUTase, also known as U6 snRNA-specific terminal uridylyltransferase 1 (U6-TUTase), RNA-binding motif protein 21, TUT1, PAPD2, STARPAP or RBM21, is an 874 amino acid protein that functions as a terminal uridylyltransferase and nuclear poly(A) polymerase. Localizing predominantly to nucleolus with minor distribution in nucleus, TUTase catalyzes the uridylylation of U6 small nuclear RNA, plays an essential role in both cell proliferation and gene expression, and undergoes posttranslational phosphorylation following DNA damage, most likely by either Atm or ATR. Encoded by a gene that maps to human chromosome 11q12.3, TUTase contains an RNA recognition motif, an N-terminal C₂H₂ zinc finger RNA-binding domain and a TRF4 element.

REFERENCES

1. Trippe, R., et al. 1998. A highly specific terminal uridylyl transferase modifies the 3'-end of U6 small nuclear RNA. *Nucleic Acids Res.* 26: 3119-3126.
2. Trippe, R., et al. 2003. Biochemical characterization of a U6 small nuclear RNA-specific terminal uridylyltransferase. *Eur. J. Biochem.* 270: 971-980.
3. Trippe, R., et al. 2006. Identification, cloning, and functional analysis of the human U6 snRNA-specific terminal uridylyl transferase. *RNA* 12: 1494-1504.
4. Martin, G. and Keller, W. 2007. RNA-specific ribonucleotidyl transferases. *RNA* 13: 1834-1849.
5. Matsuoka, S., et al. 2007. ATM and ATR substrate analysis reveals extensive protein networks responsive to DNA damage. *Science* 316: 1160-1166.
6. Mullen, T.E., et al. 2008. Degradation of histone mRNA requires oligouridylation followed by decapping and simultaneous degradation of the mRNA both 5' to 3' and 3' to 5'. *Genes Dev.* 22: 50-65.
7. Mellman, D.L., et al. 2008. A PtdIns4,5P2-regulated nuclear poly(A) polymerase controls expression of select mRNAs. *Nature* 451: 1013-1017.
8. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 610641. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
9. Laishram, R.S., et al. 2010. The poly A polymerase Star-PAP controls 3'-end cleavage by promoting CPSF interaction and specificity toward the pre-mRNA. *EMBO J.* 29: 4132-4145.

CHROMOSOMAL LOCATION

Genetic locus: TUT1 (human) mapping to 11q12.3; Tut1 (mouse) mapping to 19A.

SOURCE

TUTase (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of TUTase of human origin.

RESEARCH USE

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

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-162364 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TUTase (N-16) is recommended for detection of TUTase 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).

TUTase (N-16) is also recommended for detection of TUTase in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for TUTase siRNA (h): sc-96738, TUTase siRNA (m): sc-154810, TUTase shRNA Plasmid (h): sc-96738-SH, TUTase shRNA Plasmid (m): sc-154810-SH, TUTase shRNA (h) Lentiviral Particles: sc-96738-V and TUTase shRNA (m) Lentiviral Particles: sc-154810-V.

Molecular Weight of TUTase: 94 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.

PROTOCOLS

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