

TRNT1 (S-13): sc-103296



The Power to Question

BACKGROUND

TRNT1 (tRNA nucleotidyl transferase, CCA-adding, 1), also known as CCA1, MtCCA or CGI-47, is a 434 amino acid mitochondrial protein belonging to the tRNA nucleotidyltransferase/poly(A) polymerase family. Considered a CCA-adding enzyme, TRNT1 is essential for catalyzing the addition of the CCA terminus to the 3' end of tRNA precursors, a reaction which is a fundamental prerequisite for mature tRNAs to become aminoacylated and to participate in protein biosynthesis. Existing as three isoforms produced by alternative splicing events, TRNT1 binds manganese as a cofactor and is subject to homodimerization by disulfidated linkage. TRNT1 is encoded by a gene located on human chromosome 3, which houses over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci.

REFERENCES

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5. Higgins, J.J., et al. 2004. Candidate genes for recessive non-syndromic mental retardation on chromosome 3p (MRT2A). *Clin. Genet.* 65: 496-500.
6. Xiong, Y. and Steitz, T.A. 2004. Mechanism of transfer RNA maturation by CCA-adding enzyme without using an oligonucleotide template. *Nature* 430: 640-645.
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8. Lizano, E., et al. 2007. A splice variant of the human CCA-adding enzyme with modified activity. *J. Mol. Biol.* 366: 1258-1265.
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CHROMOSOMAL LOCATION

Genetic locus: TRNT1 (human) mapping to 3p26.2; Trnt1 (mouse) mapping to 6 E1.

SOURCE

TRNT1 (S-13) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of TRNT1 of human origin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

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

Blocking peptide available for competition studies, sc-103296 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TRNT1 (S-13) is recommended for detection of TRNT1 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); non cross-reactive with isoform TRNT1-3.

TRNT1 (S-13) is also recommended for detection of TRNT1 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for TRNT1 siRNA (h): sc-78516, TRNT1 siRNA (m): sc-154687, TRNT1 shRNA Plasmid (h): sc-78516-SH, TRNT1 shRNA Plasmid (m): sc-154687-SH, TRNT1 shRNA (h) Lentiviral Particles: sc-78516-V and TRNT1 shRNA (m) Lentiviral Particles: sc-154687-V.

Molecular Weight of TRNT1: 50 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409.

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) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.

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Try **TRNT1 (1G11): sc-517103**, our highly recommended monoclonal alternative to TRNT1 (S-13).