

# MTG1 (T-14): sc-160546

## BACKGROUND

Mitochondrial ribosomes consist of a large subunit and a small subunit, both of which are comprised of multiple mitochondrial ribosomal proteins (MRPs) that are encoded by nuclear genes and are essential for protein synthesis within mitochondria. MTG1 (mitochondrial GTPase 1), also known as GTP or GTPBP7, is a 334 amino acid mitochondrial protein belonging to the MMR1/HSR1 GTP-binding protein family. Existing as two alternatively spliced isoforms, MTG1 may participate in the assembly of the large ribosomal subunit. MTG1 is encoded by a gene located on human chromosome 10, which houses over 1,200 genes and comprises nearly 4.5% of the human genome. Defects in some of the genes that map to chromosome 10 are associated with Charcot-Marie Tooth disease, Jackson-Weiss syndrome, Usher syndrome, nonsyndromic deafness, Wolman's syndrome, Cowden syndrome, multiple endocrine neoplasia type 2 and porphyria.

## REFERENCES

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- Suzuki, T., et al. 2001. Structural compensation for the deficit of rRNA with proteins in the mammalian mitochondrial ribosome. Systematic analysis of protein components of the large ribosomal subunit from mammalian mitochondria. *J. Biol. Chem.* 276: 21724-21736.
- Barrientos, A., et al. 2003. MTG1 codes for a conserved protein required for mitochondrial translation. *Mol. Biol. Cell* 14: 2292-2302.
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## CHROMOSOMAL LOCATION

Genetic locus: MTG1 (human) mapping to 10q26.3; Mtg1 (mouse) mapping to 7 F4.

## SOURCE

MTG1 (T-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MTG1 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-160546 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MTG1 (T-14) is recommended for detection of MTG1 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

MTG1 (T-14) is also recommended for detection of MTG1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for MTG1 siRNA (h): sc-90770, MTG1 siRNA (m): sc-149678, MTG1 shRNA Plasmid (h): sc-90770-SH, MTG1 shRNA Plasmid (m): sc-149678-SH, MTG1 shRNA (h) Lentiviral Particles: sc-90770-V and MTG1 shRNA (m) Lentiviral Particles: sc-149678-V.

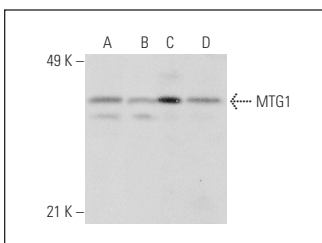
Molecular Weight of MTG1: 37 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or Hep G2 cell lysate: sc-2227.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



MTG1 (T-14): sc-160546. Western blot analysis of MTG1 expression in Jurkat (A), Hep G2 (B) and HeLa (C) whole cell lysates and human tonsil tissue extract (D).

## 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.