

# MTFmt (C-12): sc-137616

## BACKGROUND

MTFmt (Methionyl-tRNA formyltransferase, mitochondrial) is a 389 amino acid enzyme that formylates methionyl-tRNA in mitochondria. Human MTFmt shares 30% sequence similarity with prokaryotic MTFmt. In *E. coli*, methionyl-tRNA formyltransferase discriminates between the initiator Met-tRNA and the elongator Met-tRNA that are incorporated at internal residues of a protein. In contrast, mammalian mitochondria have only one Met-tRNA gene that is processed to produce formylated and nonformylated forms. It is thought that MTFmt balances the ratio of these versions of Met-tRNA depending on the needs of protein synthesis.

## REFERENCES

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3. Takeuchi, N., et al. 1998. Expression and characterization of bovine mitochondrial methionyl-tRNA transformylase. *J. Biochem.* 124: 1069-1071.
4. Takeuchi, N., et al. 1998. Mammalian mitochondrial methionyl-tRNA transformylase from bovine liver. Purification, characterization, and gene structure. *J. Biol. Chem.* 273: 15085-15090.
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7. Vial, L., et al. 2003. Mitochondrial methionyl-tRNA<sup>fMet</sup> formyltransferase from *Saccharomyces cerevisiae*: gene disruption and tRNA substrate specificity. *Biochemistry* 42: 932-939.
8. Gerhard, D.S., et al. 2004. The status, quality, and expansion of the NIH full-length cDNA project: the Mammalian Gene Collection (MGC). *Genome Res.* 14: 2121-2127.
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## CHROMOSOMAL LOCATION

Genetic locus: MTFMT (human) mapping to 15q22.31; Mtfmt (mouse) mapping to 9 C.

## SOURCE

MTFmt (C-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of MTFmt 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 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-137616 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MTFmt (C-12) is recommended for detection of MTFmt 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).

MTFmt (C-12) is also recommended for detection of MTFmt in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for MTFmt siRNA (h): sc-90010, MTFmt siRNA (m): sc-149677, MTFmt shRNA Plasmid (h): sc-90010-SH, MTFmt shRNA Plasmid (m): sc-149677-SH, MTFmt shRNA (h) Lentiviral Particles: sc-90010-V and MTFmt shRNA (m) Lentiviral Particles: sc-149677-V.

Molecular Weight of MTFmt: 44 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) 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.