

TFB2M (L-12): sc-160858

BACKGROUND

TFB2M (transcription factor B2, mitochondrial), also known as NS5ATP5, Hkp1, Mitochondrial 12S rRNA dimethylase 2, Hepatitis C virus NS5A-transactivated protein 5 or mitochondrial dimethyladenosine transferase 2, is a 396 amino acid mitochondrial protein that belongs to the rRNA adenine N⁶-methyltransferase family. Expressed ubiquitously, TFB2M is an S-adenosyl-L-methionine-dependent methyltransferase which specifically dimethylates mitochondrial 12S rRNA at the conserved stem loop. TFB2M is required for basal transcription of mitochondrial DNA and stimulates transcription independently of its methyltransferase activity. Compared to TFB1M, TFB2M has less methyltransferase activity but activates transcription of mitochondrial DNA more efficiently.

REFERENCES

1. Falkenberg, M., et al. 2002. Mitochondrial transcription factors B1 and B2 activate transcription of human mtDNA. *Nat. Genet.* 31: 289-294.
2. Gleyzer, N., et al. 2005. Control of mitochondrial transcription specificity factors (TFB1M and TFB2M) by nuclear respiratory factors (NRF-1 and NRF-2) and PGC-1 family coactivators. *Mol. Cell. Biol.* 25: 1354-1366.
3. Dubessay, P., et al. 2007. Aging impact on biochemical activities and gene expression of *Drosophila melanogaster* mitochondria. *Biochimie* 89: 988-1001.
4. Cotney, J., et al. 2007. Relative abundance of the human mitochondrial transcription system and distinct roles for h-mtTFB1 and h-mtTFB2 in mitochondrial biogenesis and gene expression. *Nucleic Acids Res.* 35: 4042-4054.
5. Adán, C., et al. 2008. Mitochondrial transcription factor B2 is essential for metabolic function in *Drosophila melanogaster* development. *J. Biol. Chem.* 283: 12333-12342.

CHROMOSOMAL LOCATION

Genetic locus: Tfb2m (mouse) mapping to 1 H4.

SOURCE

TFB2M (L-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TFB2M of mouse 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-160858 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

TFB2M (L-12) is recommended for detection of TFB2M of mouse and rat 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).

Suitable for use as control antibody for TFB2M siRNA (m): sc-154229, TFB2M shRNA Plasmid (m): sc-154229-SH and TFB2M shRNA (m) Lentiviral Particles: sc-154229-V.

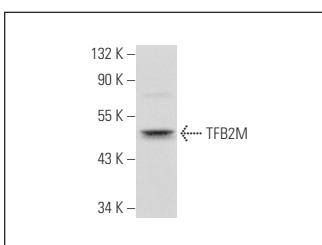
Molecular Weight of TFB2M: 45 kDa.

Positive Controls: mouse kidney extract: sc-2255.

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



TFB2M (L-12): sc-160858. Western blot analysis of TFB2M expression in mouse kidney tissue extract.

SELECT PRODUCT CITATIONS

1. Wan, X., et al. 2012. Defects of mtDNA replication impaired mitochondrial biogenesis during *Trypanosoma cruzi* infection in human cardiomyocytes and chagasic patients: the role of Nrf1/2 and antioxidant response. *J. Am. Heart Assoc.* 1: e003855.

PROTOCOLS

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