TFB2M (N-13): sc-160859

SANTA CRUZ®
BIOTECHNOLOGY

The Power to Question

BACKGROUND

TFB2M (transcription factor B2, mitochondrial), also known as NS5ATP5, Hkp1, Mitochondrial 12S rRNA dimethylase 2, Hepatitis C virus NS5A-trans-activated protein 5 or mitochondrial dimethyladenosine transferase 2, is a 396 amino acid mitochondrial protein that belongs to the rRNA adenine N^6-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. Alonso-Montes, C., et al. 2008. Mitochondrial transcription factors TFA, TFB1 and TFB2: a search for DNA variants/haplotypes and the risk of cardiac hypertrophy. Dis. Markers 25: 131-139.

6. Adán, C., et al. 2008. Mitochondrial transcription factor B2 is essential for metabolic function in *Drosophila melanogaster* development. J. Biol. Chem. 283: 12333-12342.

7. Alvarez, V., et al. 2008. Mitochondrial transcription factor A (TFAM) gene variation in Parkinson's disease. Neurosci. Lett. 432: 79-82.

8. Sánchez-Ferrero, E., et al. 2008. Mutational screening of the mitochondrial transcription factors B1 and B2 (TFB1M and TFB2M) in Parkinson's disease. Parkinsonism Relat. Disord. 15: 468-470.

CHROMOSOMAL LOCATION

Genetic locus: TFB2M (human) mapping to 1q44.

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.

SOURCE

TFB2M (N-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of TFB2M 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-160859 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TFB2M (N-13) is recommended for detection of TFB2M of 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).

Suitable for use as control antibody for TFB2M siRNA (h): sc-78569, TFB2M shRNA Plasmid (h): sc-78569-SH and TFB2M shRNA (h) Lentiviral Particles: sc-78569-V.

Molecular Weight of TFB2M: 45 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.

RESEARCH USE

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