

MTERFD2 (I-13): sc-137613

BACKGROUND

Members of the MTERF (mitochondrial transcription termination factor) family, including MTERF, MTERFD1, MTERFD2 and MTERFD3, are mitochondrial proteins that are thought to be transcription termination factors. MTERF (mitochondrial transcription termination factor 1) is composed of three leucine zippers that form a three-stranded coiled-coil that binds to DNA. It is suggested that only the phosphorylated form of MTERF has transcription termination activity. MTERFD1 (MTERF domain containing 1) may play a role as a mitochondrial transcription regulator and is expressed as two isoforms produced by alternative splicing. MTERFD2 is a 381 amino acid protein that is encoded by a gene located on human chromosome 2q37.3. MTERFD3 is believed to be involved in cell cycle regulation and cell growth by modulating mitochondrial transcription. MTERFD3 is expressed in heart, skeletal muscle, pancreas and liver.

REFERENCES

1. Fernandez-Silva, P., et al. 1997. The human mitochondrial transcription termination factor (mTERF) is a multizipper protein but binds to DNA as a monomer, with evidence pointing to intramolecular leucine zipper interactions. *EMBO J.* 16: 1066-1079.
2. Prieto-Martín, A., et al. 2004. Phosphorylation of rat mitochondrial transcription termination factor (mTERF) is required for transcription termination but not for binding to DNA. *Nucleic Acids Res.* 32: 2059-2068.
3. Kelsell, D.P., et al. 2005. Mutations in ABCA12 underlie the severe congenital skin disease harlequin ichthyosis. *Am. J. Hum. Genet.* 76: 794-803.
4. Chen, Y., et al. 2005. Cloning and functional analysis of human mTERFL encoding a novel mitochondrial transcription termination factor-like protein. *Biochem. Biophys. Res. Commun.* 337: 1112-1118.
5. Horvath, J.E., et al. 2005. Punctuated duplication seeding events during the evolution of human chromosome 2p11. *Genome Res.* 15: 914-927.
6. Roberti, M., et al. 2009. The MTERF family proteins: mitochondrial transcription regulators and beyond. *Biochim. Biophys. Acta* 1787: 303-311.
7. Hyvärinen, A.K., et al. 2010. Effects on mitochondrial transcription of manipulating mTERF protein levels in cultured human HEK293 cells. *BMC Mol. Biol.* 11: 72.

CHROMOSOMAL LOCATION

Genetic locus: MTERFD2 (human) mapping to 2q37.3; Mterfd2 (mouse) mapping to 1 D.

SOURCE

MTERFD2 (I-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MTERFD2 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-137613 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MTERFD2 (I-13) is recommended for detection of MTERFD2 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); non cross-reactive with MTERFD1 or MTERFD3.

Suitable for use as control antibody for MTERFD2 siRNA (h): sc-94555, MTERFD2 siRNA (m): sc-149674, MTERFD2 shRNA Plasmid (h): sc-94555-SH, MTERFD2 shRNA Plasmid (m): sc-149674-SH, MTERFD2 shRNA (h) Lentiviral Particles: sc-94555-V and MTERFD2 shRNA (m) Lentiviral Particles: sc-149674-V.

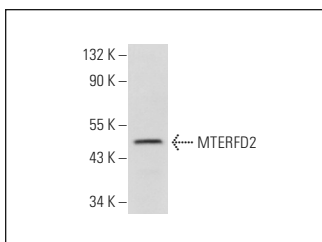
Molecular Weight of MTERFD2: 44 kDa.

Positive Controls: human small intestine extract: sc-364225.

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



MTERFD2 (I-13): sc-137613. Western blot analysis of MTERFD2 expression in human small intestine tissue extract.

RESEARCH USE

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