

MTF-1 (H-6): sc-365090

BACKGROUND

The metal-responsive element (MRE)-binding transcription factor (MTF-1) stimulates the expression of metallothioneins in response to the exposure of cells to heavy metals. MTF-1 contains six zinc fingers in the DNA binding domain. The phosphorylation of MTF-1 in response to metal exposure appears to play a significant role in the ability of MTF-1 to activate metallothionein transcription. In addition to its role in metallothionein activation, MTF-1 is involved in a post-transcription regulatory complex for ribosomal protein S25. MTF-1, La and p53 inhibit the nuclear export of S25 mRNA in response to nutrient deprivation. Furthermore, MTF-1 acts as a chromatin insulator on integrated transgenes in cultured cells to insulate active loci against chromatin silencing.

CHROMOSOMAL LOCATION

Genetic locus: MTF1 (human) mapping to 1p34.3.

SOURCE

MTF-1 (H-6) is a mouse monoclonal antibody raised against amino acids 454-753 mapping at the C-terminus of MTF-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-365090 X, 200 µg/0.1 ml.

MTF-1 (H-6) is available conjugated to agarose (sc-365090 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365090 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365090 PE), fluorescein (sc-365090 FITC), Alexa Fluor[®] 488 (sc-365090 AF488), Alexa Fluor[®] 546 (sc-365090 AF546), Alexa Fluor[®] 594 (sc-365090 AF594) or Alexa Fluor[®] 647 (sc-365090 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-365090 AF680) or Alexa Fluor[®] 790 (sc-365090 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

MTF-1 (H-6) is recommended for detection of MTF-1 of human origin by Western Blotting (starting dilution 1:100, 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 MTF-1 siRNA (h): sc-43949, MTF-1 shRNA Plasmid (h): sc-43949-SH and MTF-1 shRNA (h) Lentiviral Particles: sc-43949-V.

MTF-1 (H-6) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

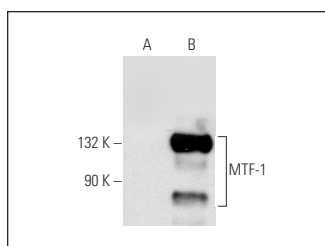
Molecular Weight of MTF-1: 70 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



MTF-1 (H-6): sc-365090. Western blot analysis of MTF-1 expression in non-transfected (A) and human MTF-1 transfected (B) HEK293 whole cell lysates.

SELECT PRODUCT CITATIONS

- Shin, C.H., et al. 2017. Identification of XAF1-MT2A mutual antagonism as a molecular switch in cell-fate decisions under stressful conditions. *Proc. Natl. Acad. Sci. USA* 114: 5683-5688.
- Liu, J., et al. 2020. Role of metallothionein-1 and metallothionein-2 in the neuroprotective mechanism of sevoflurane preconditioning in mice. *J. Mol. Neurosci.* 70: 713-723.
- McCann, C., et al. 2022. The mitochondrial Cu⁺ transporter PiC2 (SLC25A3) is a target of MTF1 and contributes to the development of skeletal muscle *in vitro*. *Front. Mol. Biosci.* 9: 1037941.

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.

PROTOCOLS

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