

MPST (H-11): sc-376168

BACKGROUND

MPST (mercaptopyruvate sulfurtransferase), also known as MST or TST2, is a 297 amino acid protein that localizes to the cytoplasm and contains two rhodanese domains. Existing as a monomer or as a disulfide-linked homodimer, MPST functions to catalyze the transfer of a sulfur ion to select thiol compounds, such as cyanide, and is thought to be involved in cyanide detoxification and cysteine degradation. MPST deficiency may be associated with the pathogenesis of the rare disorder mercaptolactate-cysteine disulfiduria (MCDU). The gene encoding MPST maps to human chromosome 22, which houses over 500 genes and is the second smallest human chromosome. Mutations in several of the genes that map to chromosome 22 are involved in the development of Phelan-McDermid syndrome, neurofibromatosis type 2, autism and schizophrenia.

CHROMOSOMAL LOCATION

Genetic locus: MPST (human) mapping to 22q12.3; Mpst (mouse) mapping to 15 E1.

SOURCE

MPST (H-11) is a mouse monoclonal antibody raised against amino acids 117-165 mapping within an internal region of MPST 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.

MPST (H-11) is available conjugated to agarose (sc-376168 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376168 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376168 PE), fluorescein (sc-376168 FITC), Alexa Fluor® 488 (sc-376168 AF488), Alexa Fluor® 546 (sc-376168 AF546), Alexa Fluor® 594 (sc-376168 AF594) or Alexa Fluor® 647 (sc-376168 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376168 AF680) or Alexa Fluor® 790 (sc-376168 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

MPST (H-11) is recommended for detection of MPST of mouse, rat and 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), immunohistochemistry (including paraffin-embedded sections) (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 MPST siRNA (h): sc-75821, MPST siRNA (m): sc-149542, MPST shRNA Plasmid (h): sc-75821-SH, MPST shRNA Plasmid (m): sc-149542-SH, MPST shRNA (h) Lentiviral Particles: sc-75821-V and MPST shRNA (m) Lentiviral Particles: sc-149542-V.

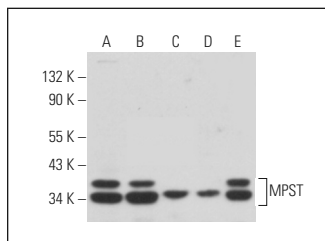
Molecular Weight of MPST: 33 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or 3T3-L1 cell lysate: sc-2243.

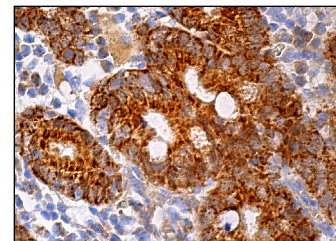
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



MPST (H-11): sc-376168. Western blot analysis of MPST expression in HeLa (A), Jurkat (B), NIH/3T3 (C), 3T3-L1 (D) and IB4 (E) whole cell lysates.



MPST (H-11): sc-376168. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Wahafu, W., et al. 2018. Increased H₂S and its synthases in urothelial cell carcinoma of the bladder, and enhanced cisplatin-induced apoptosis following H₂S inhibition in EJ cells. *Oncol. Lett.* 15: 8484-8490.
2. Eleftheriadis, T., et al. 2019. The H₂S-Nrf2-antioxidant proteins axis protects renal tubular epithelial cells of the native hibernator syrian hamster from reoxygenation-induced cell death. *Biology* 8: 74.
3. Gao, X., et al. 2020. Discovery of a redox thiol switch: implications for cellular energy metabolism. *Mol. Cell. Proteomics* 19: 852-870.
4. Chen, S., et al. 2021. Endogenous hydrogen sulfide regulates xCT stability through persulfidation of OTUB1 at cysteine 91 in colon cancer cells. *Neoplasia* 23: 461-472.
5. Comas, F., et al. 2021. Activation of endogenous H₂S biosynthesis or supplementation with exogenous H₂S enhances adipose tissue adipogenesis and preserves adipocyte physiology in humans. *Antioxid. Redox Signal.* 35: 319-340.
6. Piñeiro-Ramil, M., et al. 2022. Reduced levels of H₂S in diabetes-associated osteoarthritis are linked to hyperglycaemia, Nrf-2/HO-1 signalling downregulation and chondrocyte dysfunction. *Antioxidants* 11: 628.
7. Latorre, J., et al. 2022. The combined partial knockdown of CBS and MPST genes induces inflammation, impairs adipocyte function-related gene expression and disrupts protein persulfidation in human adipocytes. *Antioxidants* 11: 1095.
8. Yin, X., et al. 2023. Total flavones of *Rhododendron* induce the transformation of A1/A2 astrocytes via promoting the release of CBS-produced H₂S. *Phytomedicine* 111: 154666.

RESEARCH USE

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