

ME1 (h2): 293T Lysate: sc-172177

BACKGROUND

ME1 (malic enzyme 1), also known as NADP-ME, MES or HUMNDME, is a 572 amino acid cytoplasmic protein that belongs to the malic enzyme family. Expressed ubiquitously with highest expression in liver and white adipose tissue, ME1 functions as an NADP-dependent enzyme that catalyzes the conversion of S-Malate and NADP to pyruvate, carbon dioxide and NADPH (a reducing agent that participates in fatty acid biosynthesis). Through its ability to catalyze the reversible oxidative decarboxylation of malate, ME1 links the citric acid and glycolytic cycles. ME1 exists as a homotetramer that uses divalent metal cations, such as magnesium or manganese, as cofactors. The expression of ME1 is regulated by both thyroid hormone levels and the amount of carbohydrates in the diet, indicating that ME1 may play an important role as a housekeeping protein within the cell.

REFERENCES

1. Tessarolo, D., Liguori, M. and Giacanelli, M. 1991. Human malic enzymes in heart and muscle: evidence of a selective distribution. *Biochem. Med. Metab. Biol.* 45: 1-5.
2. Loeber, G., Dworkin, M.B., Infante, A. and Ahorn, H. 1994. Characterization of cytosolic malic enzyme in human tumor cells. *FEBS Lett.* 344: 181-186.
3. González-Manchón, C., Ferrer, M., Ayuso, M.S. and Parrilla, R. 1995. Cloning, sequencing and functional expression of a cDNA encoding a NADP-dependent malic enzyme from human liver. *Gene* 159: 255-260.
4. González-Manchón, C., Butta, N., Ferrer, M., Ayuso, M.S. and Parrilla, R. 1997. Molecular cloning and functional characterization of the human cytosolic malic enzyme promoter: thyroid hormone responsiveness. *DNA Cell Biol.* 16: 533-544.
5. Yang, Z., Lanks, C.W. and Tong, L. 2002. Molecular mechanism for the regulation of human mitochondrial NAD(P)⁺-dependent malic enzyme by ATP and fumarate. *Structure* 10: 951-960.

CHROMOSOMAL LOCATION

Genetic locus: ME1 (human) mapping to 6q14.2.

PRODUCT

ME1 (h2): 293T Lysate represents a lysate of human ME1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

RESEARCH USE

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

APPLICATIONS

ME1 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive ME1 antibodies. Recommended use: 10-20 µl per lane.

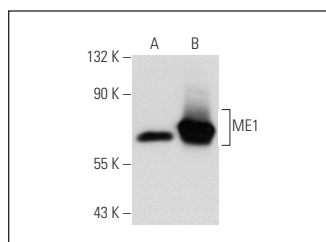
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

ME1 (99.1): sc-100569 is recommended as a positive control antibody for Western Blot analysis of enhanced human ME1 expression in ME1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



ME1 (99.1): sc-100569. Western blot analysis of ME1 expression in non-transfected: sc-117752 (A) and human ME1 transfected: sc-172177 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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