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ME1 Antibody

Catalog # ASC11773

Product Information

Application	WB, E, IHC-P
Primary Accession	P48163
Other Accession	NP_002386, 4505143
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	64150
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	ME1 antibody can be used for detection of ME1 by Western blot at 1 - 2 □g/ml. Antibody can also be used for Immunohistochemistry at 5 □g/mL.

Additional Information

Gene ID	4199
Other Names	NADP-dependent malic enzyme, NADP-ME, 1.1.1.40, Malic enzyme 1, ME1
Target/Specificity	ME1; ME1 antibody is human, mouse and rat reactive. ME1 antibody is predicted not to cross-react with ME2.
Reconstitution & Storage	ME1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	ME1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ME1 (HGNC:6983)
Function	Catalyzes the oxidative decarboxylation of (S)-malate in the presence of NADP(+) and divalent metal ions, and decarboxylation of oxaloacetate.
Cellular Location	Cytoplasm.
Tissue Location	Expressed in all tissues tested including liver, placenta and white adipose tissue.

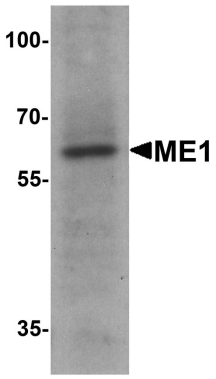
Background

ME1, also known as NADP-ME, MES or HUMNDME, may play an important role as a housekeeping protein within the cell (1). ME1 is a 572 amino acid cytoplasmic protein that belongs to the malic enzyme family (2). It is expressed ubiquitously with highest expression in liver and white adipose tissue. ME1 functions as an NADP-dependent enzyme that generates NADPH for fatty acid biosynthesis (3). The activity of this enzyme, the reversible oxidative decarboxylation of malate, links the glycolytic and citric acid cycles (3,4). ME1 is regulated by both thyroid hormone levels and the amount of carbohydrates in the diet (5).

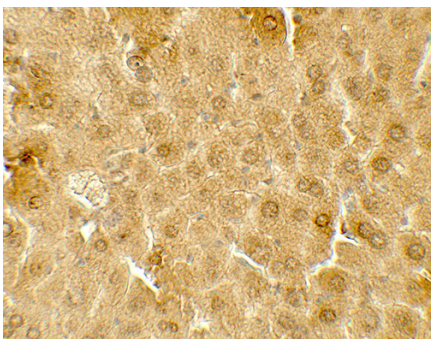
References

Loeber G, Dworkin MB, Infante A, et al. Characterization of cytosolic malic enzyme in human tumor cells. FEBS Lett. 1994; 344:181-6.
Gonzalez-Manchon C, Ferrer M, Ayuso MS, et al. Cloning, sequencing and functional expression of a cDNA encoding a NADP-dependent malic enzyme from human liver. Gene 1995;159:255-60.
Gonzalez-Manchon C, Butta N, Ferrer M, et al. Molecular cloning and functional characterization of the human cytosolic malic enzyme promoter: thyroid hormone responsiveness. DNA Cell Biol. 1997;16:533-44.
Yang Z, Lanks CW and Tong L. Molecular mechanism for the regulation of human mitochondrial NAD(P)+-dependent malic enzyme by ATP and fumarate. Structure 2002; 10:951-60.

Images



Western blot analysis of ME1 in 293 cell lysate with ME1 antibody at 1 µg/ml.



Immunohistochemistry of ME1 in mouse liver tissue with ME1 antibody at 5 µg/mL.