

# Malic Enzyme (Mitochondrial) Antibody

✓ 100 µl  
(10 western blot)

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New 04/13

For Research Use Only. Not For Use In Diagnostic Procedures.

Entrez-Gene ID #4200  
Swiss-Prot Acc. #P23368

**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C.  
Do not aliquot the antibody.

**\*Species cross-reactivity is determined by western blot.**

**\*\*Anti-rabbit secondary antibodies must be used to detect this antibody.**

## Recommended Antibody Dilutions:

Western blotting 1:1000  
Immunoprecipitation 1:50

For product specific protocols please see the web page for this product at [www.cellsignaling.com](http://www.cellsignaling.com).

Please visit [www.cellsignaling.com](http://www.cellsignaling.com) for a complete listing of recommended complementary products.

Applications W, IP Endogenous	Species Cross-Reactivity* H, Mk	Molecular Wt. 65 kDa	Source Rabbit**
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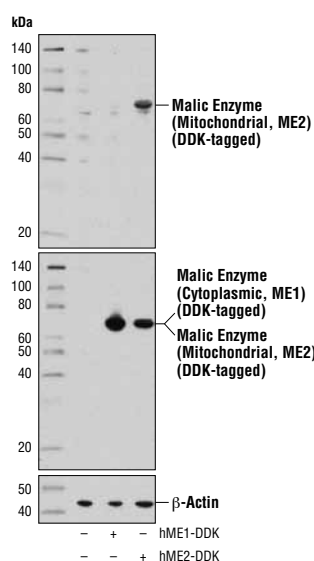
**Background:** Cytosolic malic enzyme (ME1) catalyzes the conversion of malate and NADP<sup>+</sup> to pyruvate and NADPH (1,2). NADPH is then used for fatty acid biosynthesis and lipogenesis (1,2). Cytosolic malic enzyme was shown to mediate high fat diet-induced adiposity (1). Mitochondrial malic enzyme (ME2) preferentially uses NAD<sup>+</sup> to catalyze the conversion of malate to pyruvate with the concomitant generation of NADH (2). Recent studies have demonstrated that the tumor suppressor p53 regulates cell metabolism and proliferation by repressing the expression of both cytosolic malic enzyme and mitochondrial malic enzyme (3).

**Specificity/Sensitivity:** Malic Enzyme (Mitochondrial) Antibody recognizes endogenous levels of total malic enzyme (mitochondrial) protein.

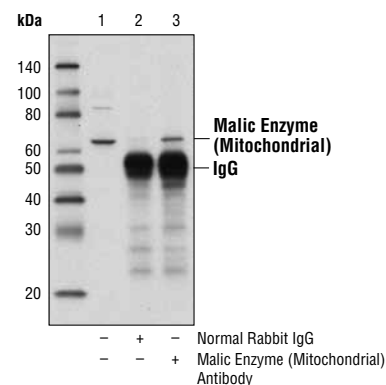
**Source/Purification:** Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly450 of human malic enzyme (mitochondrial) protein. Antibodies are purified by protein A and peptide affinity chromatography.

## Background References:

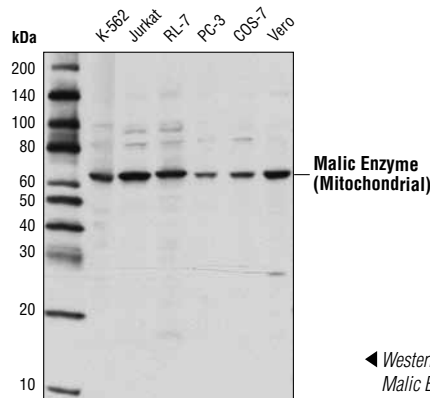
- (1) Al-Dwairi, A. et al. (2012) *PLoS One* 7, e46716.
- (2) Pongratz, R.L. et al. (2007) *J Biol Chem* 282, 200-7.
- (3) Jiang, P. et al. (2013) *Nature* 493, 689-93.



Western blot analysis of extracts from 293 cells, mock transfected (-) or transfected with either a construct expressing DDK-tagged full-length human malic enzyme (cytoplasmic) (hME1-DDK; +) or a construct expressing DDK-tagged full-length human malic enzyme (mitochondrial) (hME2-DDK; +), using Malic Enzyme (Mitochondrial) Antibody (upper), DYKDDDDK Tag (9A3) Mouse mAb #8146 (middle), or β-Actin (D6A8) Rabbit mAb #8457 (lower).



Immunoprecipitation of malic enzyme (mitochondrial) from 293 cell extracts, using Normal Rabbit IgG #2729 (lane 2) or Malic Enzyme (Mitochondrial) Antibody (lane 3). Lane 1 is 10% input. Western blot analysis was performed using Malic Enzyme (Mitochondrial) Antibody.



◀ Western blot analysis of extracts from various cell lines using Malic Enzyme (Mitochondrial) Antibody.

**IMPORTANT:** For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide  
**Species Cross-Reactivity Key:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine  
Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.