

Store at  
-20°C

# Malic Enzyme 2 (E1N3F) XP® Rabbit mAb

35939

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orders@cellsignal.comEntrez-Gene ID #4200  
UniProt ID # P23368

New 10/17

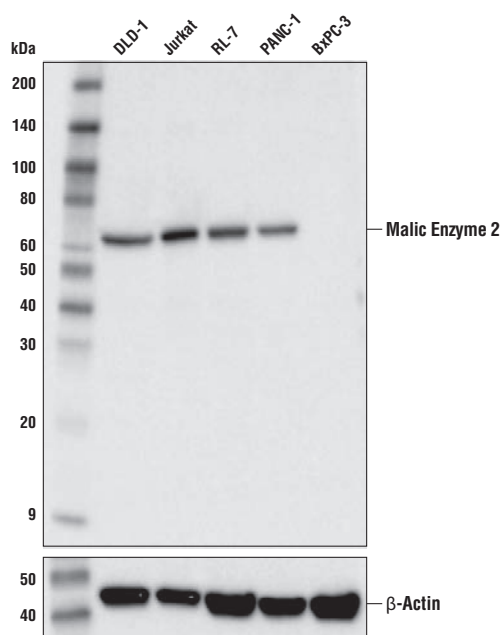
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**Applications**  
W, IF-IC, F  
Endogenous**Species Cross-Reactivity\***  
H, Mk**Molecular Wt.**  
65 kDa**Isotype**  
Rabbit IgG\*\*

**Background:** Malic enzyme catalyzes oxidative decarboxylation of malate to pyruvate (1). The malic enzyme family in mammalian cells includes the cytosolic malic enzyme 1 (ME1) and two mitochondrial malic enzymes (ME2 and ME3) (1, 2). ME1 and ME2 are critical for tumor cell growth and their expression is repressed by tumor suppressor p53 (2). Reduced expression of *ME1* and *ME2* reciprocally increases the levels and activation of p53, promoting p53-mediated senescence (2). Furthermore, studies show that ME3 is essential for the survival of the pancreatic ductal adenocarcinoma where *ME2* is lost in the *SMAD4* locus (3). Deletion of *ME3* is lethal to these *ME2*-null cancer cells, which presents the collateral lethality therapeutic opportunity in the cancer treatment (3, 4).

**Specificity/Sensitivity:** Malic Enzyme 2 (E1N3F) XP® Rabbit mAb recognizes endogenous levels of total malic enzyme 2 protein. This antibody does not cross-react with malic enzyme 1 and malic enzyme 3 proteins.

**Source/Purification:** Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu566 of human malic enzyme 2 protein.



Western blot analysis of extracts from various cell lines using Malic Enzyme 2 (E1N3F) XP® Rabbit mAb (upper) or β-Actin (D6A8) Rabbit mAb #8457 (lower).

**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
Immunofluorescence (IF-IC)	1:400
IF Protocol:	Methanol Permeabilization Required
Flow Cytometry	1:400

For product specific protocols and a complete listing of recommended companion products please see the product web page at [www.cellsignal.com](http://www.cellsignal.com)

**Background References:**

- (1) Pongratz, R.L. et al. (2007) *J Biol Chem* 282, 200-7.
- (2) Jiang, P. et al. (2013) *Nature* 493, 689-93.
- (3) Dey, P. et al. (2017) *Nature* 542, 119-23.
- (4) Muller, F.L. et al. (2015) *Trends Cancer* 1, 161-73.

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

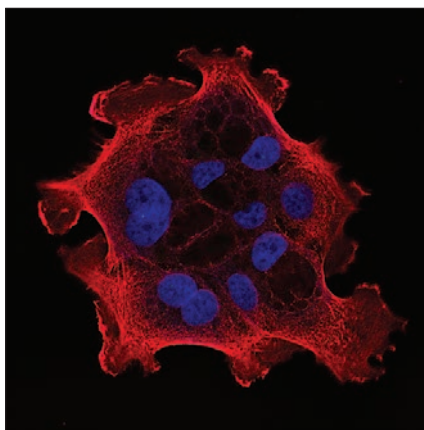
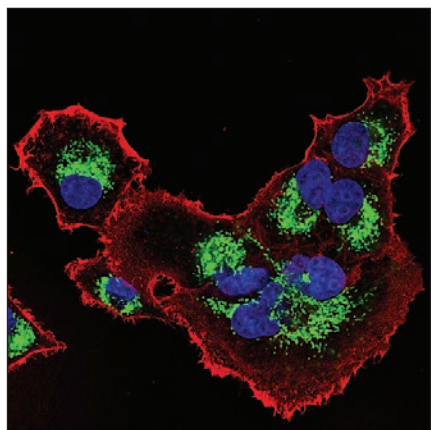
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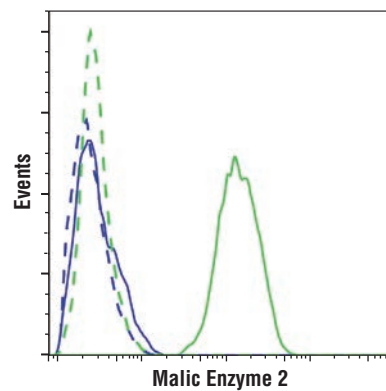
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Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide Species Cross-Reactivity: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken 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.



Confocal immunofluorescent analysis of PANC-1 (left, positive) or BxPC-3 (right, negative) cells using Malic Enzyme 2 (E1N3F) XP<sup>®</sup> Rabbit mAb (green), and  $\beta$ -Actin (8H10D10) Mouse mAb #3700 (red). Blue pseudocolor = DRAQ5<sup>®</sup> #4084 (fluorescent DNA dye).



Flow cytometric analysis of BxPC-3 cells (blue) and Jurkat cells (green) using Malic Enzyme 2 (E1N3F) XP<sup>®</sup> Rabbit mAb (solid lines) or a concentration-matched Rabbit (DA1E) mAb IgG XP<sup>®</sup> Isotype Control #3900 (dashed lines). Anti-rabbit IgG (H+L), F(ab)<sub>2</sub> Fragment (Alexa Fluor<sup>®</sup> 488 Conjugate) #4412 was used as a secondary antibody.

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