Revision 1

#15506 Store at -20C

Malic Enzyme 2 (E1N3E) XP® Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IHC-P, IF-IC	H Mk	Endogenous	65	Rabbit IgG	#P23368	4200

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunohistochemistry (Paraffin)	1:200
Immunofluorescence (Immunocytochemistry)	1:400

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity / Sensitivity

Malic Enzyme 2 (E1N3E) 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 Pro364 of human malic enzyme 2 protein.

Background

Malic enzymes catalyze 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). Research studies show ME3 is essential for the survival of pancreatic ductal adenocarcinoma following genomic deletion of *ME2* (3). Deletion of *ME3* is lethal to *ME2*-null cancer cells, which has been suggested to provide a potential therapeutic opportunity using collateral lethality (3, 4).

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.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

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

Applications Key

WB: Western Blotting **IHC-P:** Immunohistochemistry (Paraffin)
IF-IC: Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **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
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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