

Malic Enzyme 3 (E8A3V) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Mk	Endogenous	67	Rabbit IgG	#Q16798	10873

Product Usage Information**Application**

Western Blotting

Dilution

1:1000

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 3 (E8A3V) Rabbit mAb recognizes endogenous levels of total malic enzyme 3 protein. This antibody does not cross-react with malic enzyme 1 and malic enzyme 2 proteins. This antibody may detect a non-specific band at 60 kDa.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala390 of human malic enzyme 3 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

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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