Revision 5

Store at -20C

#12793

Glutamate Dehydrogenase 1/2 (D9F7P) Rabbit mAb

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IHC-P, IF-IC	H M R Mk	Endogenous	52	Rabbit IgG	#P00367	2746

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunohistochemistry (Paraffin)	1:800 - 1:3200
Immunofluorescence (Immunocytochemistry)	1:600 - 1:1200

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.

For a carrier free (BSA and azide free) version of this product see product #80063.

Specificity/Sensitivity

Glutamate Dehydrogenase 1/2 (D9F7P) Rabbit mAb recognizes endogenous levels of total glutamate dehydrogenase 1 and 2 proteins. Species cross-reactivity for IHC-P and IF-IC is in human only.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro190 of human glutamate dehydrogenase 1 protein.

Background

Glutamate dehydrogenase is a mitochondrial enzyme that catalyzes the oxidative deamination of glutamate to α-ketoglutarate through association with the cofactor nicotinamide adenine dinucleotide phosphate (1). Glutamate dehydrogenase is highly expressed in various tissues such as the liver, brain, kidney, heart, pancreas, ovaries, and testis. Two isoforms produced by two distinct genes are found in mammalian tissues. The *GLUD1* gene is ubiquitously expressed (2), while the *GLUD2* gene is specifically expressed in testicular tissues and astrocytes (3,4). Glutamate dehydrogenase links glutamate to the Krebs cycle, thereby playing a critical role in the regulation of energy homeostasis. Research studies have shown that changes in glutamate dehydrogenase activity in pancreatic β-cells can cause a hyperinsulinism syndrome (5).

Background References

1. Blumenthal, K.M. et al. (1975) *J Biol Chem* 250, 3644-54.
2. Michaelidis, T.M. et al. (1993) *Genomics* 16, 150-60.
3. Shashidharan, P. et al. (1997) *J Neurochem* 68, 1804-11.
4. Zaganas, I. et al. (2012) *Neurochem Int* 61, 455-62.
5. Karaca, M. et al. (2011) *Neurochem Int* 59, 510-7.

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

Cross-Reactivity Key

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

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Limited Uses

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