#12793 Store at -20°C

Glutamate Dehydrogenase 1/2 (D9F7P) Rabbit mAb

☑ 100 µl
(10 western blots)

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New 06/13

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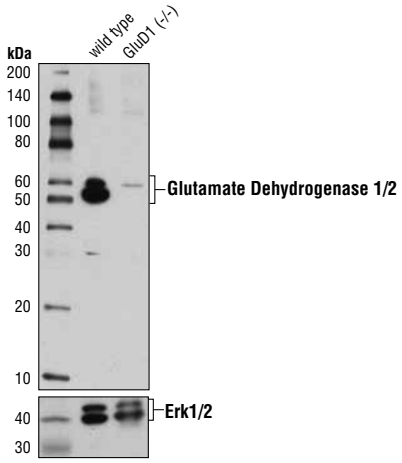
Entrez-Gene ID #2746
Swiss-Prot Acc. #P00367

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IHC-P, IF-IC	H, M, R, Mk	52 kDa	Rabbit IgG**
Endogenous			

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).

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.



Western blot analysis of extracts from wild-type and glutamate dehydrogenase 1 (-/-) mouse brain using Glutamate Dehydrogenase 1/2 (D9F7P) Rabbit mAb (upper) or p44/42 MAPK (Erk1/2) (137F5) Rabbit mAb #4695 (lower). Tissues from wild-type and glutamate dehydrogenase (-/-) mice were kindly provided by Dr. Pierre Maechler (University of Geneva, Switzerland).

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.*

***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
Immunohistochemistry (Paraffin)	1:1600†
Unmasking buffer:	Citrate
Antibody diluent:	SignalStain® Antibody Diluent #8112
Detection reagent:	SignalStain® Boost (HRP, Rabbit) #8114

†*Optimal IHC dilutions determined using SignalStain® Boost IHC Detection Reagent.*

Immunofluorescence (IF-IC)	1:600
IF Protocol:	Methanol Fixation required

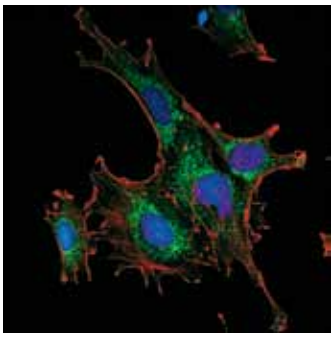
For product specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended complementary products.

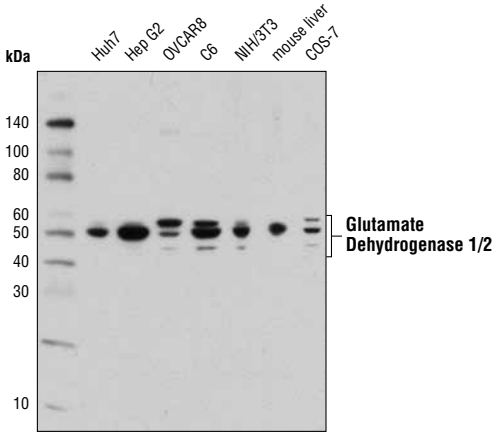
Background References:

(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.

A172



Confocal immunofluorescent analysis of A172 cells using Glutamate Dehydrogenase 1/2 (D9F7P) Rabbit mAb (green) and β-Actin (8H10D10) Mouse mAb #3700 (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



Western blot analysis of extracts from various cell lines and tissues using Glutamate Dehydrogenase 1/2 (D9F7P) Rabbit mAb.

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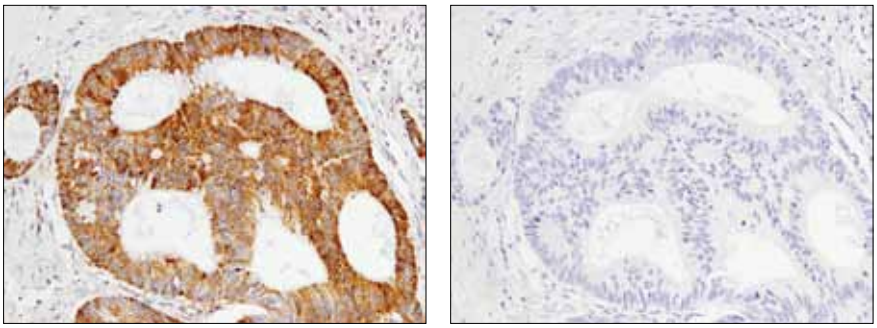
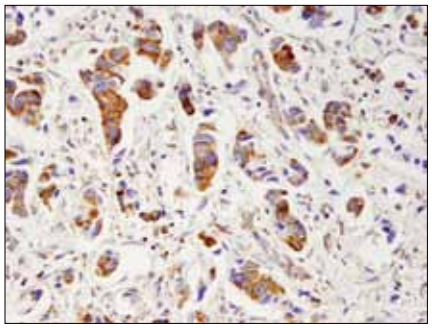
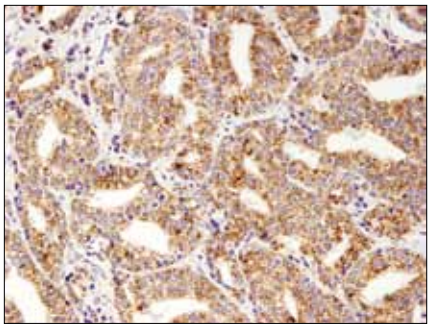
Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide
Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink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



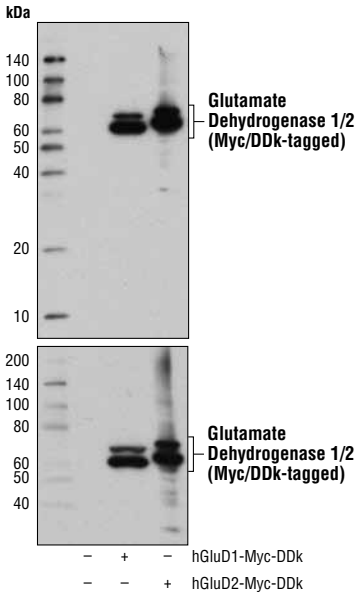
Immunohistochemical analysis of paraffin-embedded human colon carcinoma using Glutamate Dehydrogenase 1/2 (D9F7P) Rabbit mAb in the presence of control peptide (left) or antigen-specific peptide (right).



Immunohistochemical analysis of paraffin-embedded human breast carcinoma using Glutamate Dehydrogenase 1/2 (D9F7P) Rabbit mAb.



Immunohistochemical analysis of paraffin-embedded human prostate carcinoma using Glutamate Dehydrogenase 1/2 (D9F7P) Rabbit mAb.



Western blot analysis of extracts from 293T cells, mock transfected (-) or transfected with a construct expressing Myc/DDK-tagged full-length human glutamate dehydrogenase 1 (hGluD1; +) or glutamate dehydrogenase 2 (hGluD2; +), using Glutamate Dehydrogenase 1/2 (D9F7P) Rabbit mAb (upper) or Myc-Tag (71D10) Rabbit mAb #2278 (lower).