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-20°C

#41318

GAD1 (D1F2M) Rabbit mAb

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www.cellsignal.com/supportOrders: 877-616-2355 (U.S.)
orders@cellsignal.comEntrez-Gene ID #2571
UniProt ID #Q99259

New 01/19

For Research Use Only. Not For Use In Diagnostic Procedures.**Applications**
W, IP, IF-F
Endogenous**Species Cross-Reactivity***
M, R, (H)**Molecular Wt.**
67 kDa**Isotype**
Rabbit IgG**

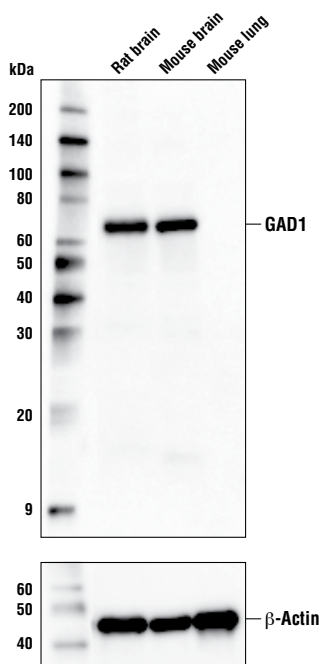
Background: The enzyme glutamate decarboxylase (GAD) is responsible for the synthesis of the essential neurotransmitter gamma-aminobutyric acid (GABA) from L-glutamic acid (1). GAD1 (GAD67) and GAD2 (GAD65) are expressed in nervous and endocrine systems (2) and are thought to be involved in synaptic transmission (3) and insulin secretion (4), respectively. Autoantibodies against GAD2 may serve as markers for type I diabetes (5). Many individuals suffering from an adult onset disorder known as Stiff Person Syndrome (SPS) also express autoantibodies to GAD2 (6). GAD1 and GAD2 are encoded by separate genes and are coexpressed in most of the GABA-containing neurons (1, 7).

Background References:

- (1) Kaufman, D.L. et al. (1991) *J Neurochem* 56, 720-3.
- (2) Feldblum, S. et al. (1993) *J Neurosci Res* 34, 689-706.
- (3) Gao, B. and Moore, R.Y. (1996) *J Biol Rhythms* 11, 172-9.
- (4) Rubi, B. et al. (2001) *J Biol Chem* 276, 36391-6.
- (5) Gilliam, L.K. et al. (2004) *Clin Exp Immunol* 138, 337-41.
- (6) Skorstad, G. et al. (2008) *Eur J Neurol* 15, 973-80.
- (7) Erlander, M.G. et al. (1991) *Neuron* 7, 91-100.

Specificity/Sensitivity: GAD1 (D1F2M) Rabbit mAb recognizes endogenous levels of total GAD1 protein.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala15 of human GAD1 protein.



Western blot analysis of extracts from mouse and rat tissue using GAD1 (D1F2M) Rabbit mAb (upper) and β -Actin (D6A8) Rabbit mAb #8457 (lower).

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 μ g/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
Immunoprecipitation	1:50
Immunofluorescence (IF-F)	1:50
Fixative:	4% Formaldehyde
Permeabilization:	0.3% Triton X-100

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com.

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

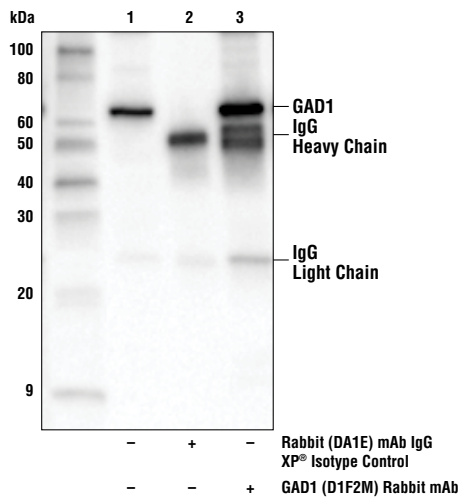
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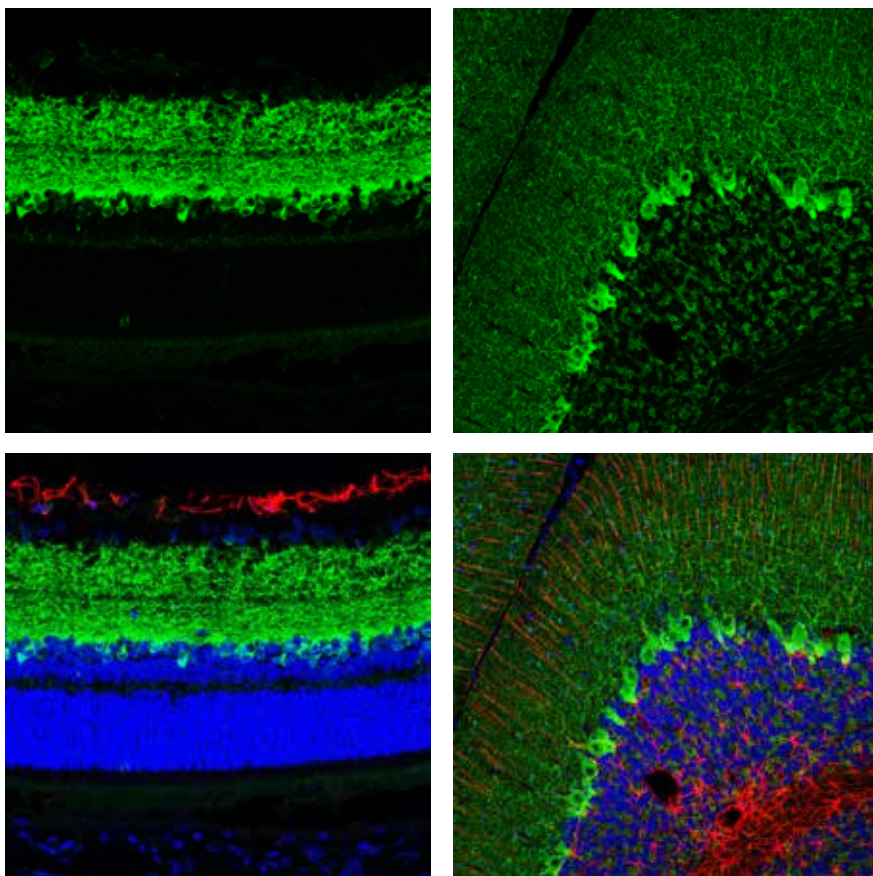
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Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide **Species Cross-Reactivity:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken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



Immunoprecipitation of GAD1 protein from mouse brain tissue extracts. Lane 1 is 10% input, lane 2 is Rabbit (DA1E) mAb IgG XP Isotype Control #3900, and lane 3 is GAD1 (D1F2M) Rabbit mAb. Western blot analysis was performed using GAD1 (D1F2M) Rabbit mAb.



Confocal immunofluorescent analysis of rat retina (left) and cerebellum (right) using GAD1 (D1F2M) Rabbit mAb (green) and GFAP (GA5) Mouse mAb (Alexa Fluor 555 Conjugate) #3656 (red). Samples were mounted in ProLong Gold Antifade Reagent with DAPI #8961 (blue).

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