

Rabbit Polyclonal Anti-PDE9A antibody

Catalog Number: PD9A-101AP

Lot Number:

General Information

Product	PDE9A Antibody
Description	High affinity cGMP-specific 3',5'-cyclic phosphodiesterase 9A isoform a Antibody
Accession #	Uniprot: O76083 NCBI: NP_002597.1
Verified Applications	CM, ELISA, ICC/IF, IHC, IP, WB
Species Cross Reactivity	Human, Mouse, Rat
Host	Rabbit
Immunogen	Synthetic cyclic peptide common to all PDE9A variants.
Specificity	This antibody does not cross-react with PDE9B protein or any other PDE family members.
Alternative Nomenclature	FLJ90181 antibody, HSPDE9A2 antibody, Pde9a antibody, Phosphodiesterase 9 antibody

Physical Properties

Quantity	100 µg
Volume	200 µl
Form	Affinity Purified Immunoglobulins
Immunoglobulin & Concentration	0.55 mg/ml IgG in antibody stabilization buffer
Storage	Store at -20°C for long term storage.

Recommended Dilutions

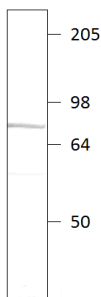
DOT Blot	1:100
ELISA	1:100
Immunocytochemistry	1:100
Immunofluorescence	1:100
Immunohistochemistry	1:100
Immunoprecipitation	1:250
Western Blot	1:500

Related Products

Catalog

FITC-Conjugated	PD9A-FITC
Antigenic Blocking Peptide	P-PD9A
BIOTIN-Conjugated	PD9A-BIOTIN
Western Blot Positive Control	PC-PD9A

Application Verification:



WB of PD9A-101AP with PC-PD9A. 1:500 antibody dilution in DiluObuffer. Apparent MW is 70-72 kDa.

Dilutions are for reference only. Applications not listed above are not necessarily precluded from working with this antibody. Investigators intending to use an application that has not been verified can request a complimentary sample.

Overview:

Cyclic nucleotides are intracellular second messengers which play important role variety of signal transduction process. The cyclic nucleotides are hydrolyzed and compartmentalized by a family of enzymes called phosphodiesterases. One of the many phosphodiesterases that compartmentalized and hydrolyze cGMP in to GMP are Phosphodiesterase type 9 (PDE9). The cGMP-specific PDE9 family is comprised of two genes, PDE9A and PDE9B, each with multiple splice variants generated by RNA splicing and use of alternate initiation sites (1). At least 20 different mRNA transcripts are produced (PDE9A1 through PDE9A20) as a result of alternate splicing of exons with the possibility of more to be discovered. The PDE9 gene was mapped to chromosome 21q22.3. Since a number of genetic disorders are mapped to chromosome 21q22.3, including one form of bipolar affective disorder, the disturbances in the intra neuronal signal transduction plays important role in affective disorders, the PDE9A becomes an important candidate for therapeutic intervention. PDE9 family is a high affinity cGMP-specific, with Km in the range of 170 nM for cGMP and 230 μ M for cAMP. The Km for cGMP makes PDE9A one of the highest affinity PDEs for cGMP. The Vmax for cGMP (5.0 nmoles/min/ μ g rec. protein) is about twice as fast as that of PDE4 for cAMP. PDE9A is insensitive to a variety of PDE inhibitors (rolipram, vinpocetine, SKF94120, diprymidamole, and IBMX) but is inhibited by *Zaprinast*, a PDE5 inhibitor. Like other cGMP-dependent PDEs (PDE2, PDE5 and PDE6) the PDE9A lacks a region homologous to the allosteric cGMP binding site. PDE9 has a significant conserved region of about 270 amino acids common to all PDEs at the carboxy terminal apparently serves as the catalytic domain. The amino-terminal region of this protein is divergent and presumably accounts for the distinctive and regulatory properties unique to the individual PDE families. PDE9A protein showed significant homology to other cAMP-dependent PDEs (23%) with in the catalytic domain. PDE9A is widely expressed in various tissues in contrast to PDE9B whose expression is more limited. The tissue specific distribution appears to be in the order of spleen > small intestine > brain.

FabGennix has produced antibodies to PDE9A family members using cyclic peptide methodology that yields high specific antibodies (3). Antibodies to other PDE family members are also available. The PDE antibodies are PDE-selective, family subtype-selective and family-subtype-variant selective antibodies, for the detailed analyses of cyclic nucleotide signaling pathways. The PDE9-selective antibodies are generated against a common sequence near the C-terminal end that is unique to PDE9A family members. The polyclonal antibody (PD9A-101AP) labels a 70-73 kDa PDE9A using WB positive controls. The PDE9A-specific antiserum has no cross reactivity against PDE9B protein or any other PDE family members. Biotinylated PDE9A antibody (PD9A-BIOTIN) area available, and the biotin:IgG ratios are between 2.85-3.2 as determined by avidin-biotin quantitation reactions. Antibodies can be conjugated to secondary enzymes or fluorescent probes upon request at extra charge. Synthetic blocking peptide (P-PD9A) and western blot positive controls (PC-PD9A) are also available. For a complete listing of all FabGennix antibodies and lab services, please visit <http://fabgennix.com>.

References:

1. Fisher D. A., et. Al., J. Biol. Chem.. 273, 15559-15564, 1998.
2. Guipponi M. Scott H. S. et. Al., Hum. Genet. 103, 386-392, 1998.
3. Farooqui S. M. Hamdi A., Brock J., Prasad C. J. Neurochem 57;1363-369, 1991.

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