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Rabbit Polyclonal Anti-PDE4D4 antibody

Catalog Number: PD4D4-441AP Lot Number:

General Information

Product	PDE4D4 Antibody
Description	cAMP-specific phoshodiesterase HPDE4D3 variant Antibody Affinity Purified N-epitope
Accession #	Uniprot: Q08499 GenBank: EAW74861.1
Verified Applications	ELISA, IP, WB
Species Cross Reactivity	Mouse, Rat
Host	Rabbit
Immunogen	Synthetic peptide corresponding to unique amino acid sequence on PDE4D4 variant gene.
Alternative Nomenclature	cAMP specific 3',5' cyclic phosphodiesterase 4D antibody, PDE4D4 antibody, DPDE3 antibody, Dunce like phosphodiesterase E3 antibody, FLJ97311 antibody, PDE43 antibody, PDE4DN2 antibody, STRK1 antibody

Physical Properties

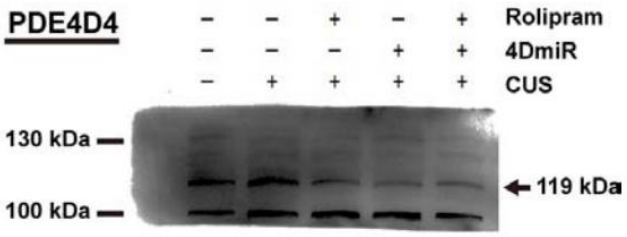
Quantity	100 µg
Volume	200 µl
Form	Affinity Purified Immunoglobulins
Immunoglobulin & Concentration	0.52 mg/ml IgG in antibody stabilization buffer
Determinant	N-epitope
Storage	Store at -20ºC for long term storage.

Recommended Dilutions

DOT Blot	1:10,000
ELISA	1:10,000
Immunoprecipitation	1:150
Western Blot	1:500

Related Products	Catalog #
BIOTIN-Conjugated	PD4D4.n-BIOTIN
FITC-Conjugated	PD4D4.n-FITC
Antigenic Blocking Peptide	P-PD4D4.n
Western Blot Positive Control	PC-PD4D4

Application Verification:



WB of long-form PDE4D variants in mouse prefrontal cortical tissues using PD4D4-441AP. Courtesy of Wang, Z.-Z. et al. Phosphodiesterase-4D Knock-down in the Prefrontal Cortex Alleviates Chronic Unpredictable Stress-Induced Depressive-Like Behaviors and Memory Deficits in Mice. Sci. Rep. (2015).

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:

Enzymes of the cAMP-dependent phosphodiesterase type 4 (PDE4) family are important in hydrolyzing cAMP produced by G-protein coupled receptor (GPCR) stimulated adenylyl cyclases. In brain more than 90% of cAMP formed by the stimulation of GPCRs is hydrolyzed by PDE4 enzymes (1). Members of the PDE4A, B and D family are associated with GPCRs (adrenergic and dopaminergic) signaling (2, 3). PDE4 enzymes are also important molecular targets for variety of therapeutic agents like antidepressants, anti-asthmatics, and anti-inflammatory drugs. PDE4 family comprised of 4 genes (PDE4A, B, C and D); each exhibiting multiple isozymes due to alternate splicing that leads to a larger number of distinct PDE4 variants (4). Members of the PDE4 family are regulated/activated by phosphorylation/dephosphorylation by cAMP-dependent protein kinase A and phosphatases (5). Two conserved phosphorylation motifs have been identified in PDE4B and PDE4D. Phosphorylation at PKA site resulted in significant increase in enzymatic activity of PDE4D variants. Phosphorylation state, protein-protein interactions and cellular trafficking of PDE4D enzymes play an important role in cAMP compartmentalization and cAMP-dependent signaling (6). Cyclic AMP-dependent phosphodiesterase type D (PDE4D) family is comprise of 9 variants (PDE4D1-PDE4D9). PDE4D1-PDE4D5 variants are produced by alternate splicing at the N-terminus. These splice variants have a common core protein.

The PDE4D4 selective antibody (PD4D4-441AP) was generated using a unique peptide to PDE4D4 member of the larger PDE4D family. PD4D4-441AP detects only the PDE4D4 variant of the PDE4D family and has no cross reactivity towards other members of the PDE4D family or other PDE4 proteins. Western blot positive control (PC-PD4D4) and antigenic blocking peptides (P-PD4D4) are available easy identification and quantification of PDE4D4 proteins. Antibodies can be conjugated to fluorescent probes or secondary enzymes upon request at an additional charge. FabGennix provides PDE family selective, family subtype-selective and family-subtype-variant selective antibodies for detailed analyses of cAMP signaling pathways, please refer to our website at http://fabgennix.com for a complete listing.

References:

1. Ye Y., and O'Donell M. J. J. Neurochem. 66; 1894-1902, 1997.
2. Farooqui S. M., Zhang K., Makhay M., Jackson K., Farooqui S, Q., et. al., (1998) J. Neurochem 57;1363 1991
3. Ye Y., Houslay M. D., Farooqui M. S., Jackson K. T., Chen M., O'Donnell J. M. J. Neurochem. 69; 2397-2404, 1998.
4. Beavo J. A. (1995) Physiological Rev. 75; 725-748, 1995.
5. Hoffman R., et. Al., Biochem. J. 333; 139-149, 1998.
6. Yarwood S. J.et. al., J. Biol. Chem. 274; 14909-14917, 1999.

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This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.