

## Rabbit Polyclonal Anti-PDE4D5 antibody

Catalog Number: PD4D5-451AP

Lot Number:

### General Information

<b>Product</b>	PDE4D5 Antibody
<b>Description</b>	cAMP-specific phosphodiesterase PDE4D5 Affinity purified Antibody
<b>Accession #</b>	Uniprot: Q08499 GenBank: AAC00069.1
<b>Verified Applications</b>	CM, ELISA, ICC, IF, IHC, IP, WB
<b>Species Cross Reactivity</b>	Human, Mouse, Rabbit, Rat
<b>Host</b>	Rabbit
<b>Immunogen</b>	A 20 amino acid synthetic peptide taken from the N-terminus corresponding to the PDE4D5 variant.
<b>Specificity</b>	This antibody does not cross-react with other members of the PDE4D family or with other PDE4 proteins (PDE4A, PDE4B and PDE4C) or with other PDE family members.
<b>Alternative Nomenclature</b>	cAMP-specific 3'5'-cyclic phosphodiesterase 4D5 antibody, DPDE3 antibody, dunce-like phosphodiesterase E3 antibody, hPDE4D5 antibody, PDE4D5 antibody

### Physical Properties

<b>Quantity</b>	100 µg
<b>Volume</b>	200 µl
<b>Form</b>	Affinity Purified Immunoglobulins
<b>Immunoglobulin &amp; Concentration</b>	0.65 mg/ml IgG in antibody stabilization buffer
<b>Storage</b>	Store at -20°C for long term storage.

### Recommended Dilutions

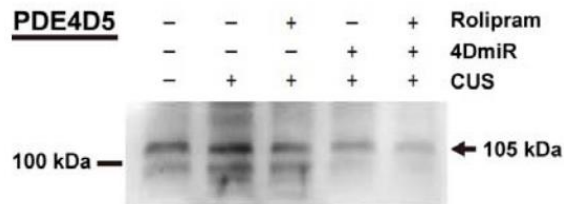
<b>DOT Blot</b>	1:10,000
<b>ELISA</b>	1:10,000
<b>Immunocytochemistry</b>	1:200
<b>Immunofluorescence</b>	1:200
<b>Immunohistochemistry</b>	1:200
<b>Immunoprecipitation</b>	1:150
<b>Western Blot</b>	1:500

## Related Products

## Catalog #

<b>FITC-Conjugated</b>	PD4D5-FITC
<b>BIOTIN-Conjugated</b>	PD4D5-BIOTIN
<b>Antigenic Blocking Peptide</b>	P-PD4D5
<b>Western Blot Positive Control</b>	PC-PD4D5

## Application Verification:



WB of long-form PDE4D variants in mouse prefrontal cortical tissues using PD4D5-451AP. Courtesy of Wang, 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 PDE4D5 selective antibody (PD4D5-451AP) was generated using a unique peptide to PDE4D5 member of the larger PDE4D family. PD4D5-451AP detects only the PDE4D5 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-PD4D5) and antigenic blocking peptides (P-PD4D5) are available easy identification and quantification of PDE4D5 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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