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Rabbit Polyclonal PDE4 antibody

Catalog Number: PD4-101AP Lot Number:

General Information

Product	PDE4 Antibody
Description	Pan Phosphodiesterase 4 Antibody
Verified Applications	CM, ELISA, ICC, IF, IHC, IP, WB
Species Cross Reactivity	Chicken, Human, Monkey, Mouse, Rat
Host	Rabbit
Immunogen	Synthetic peptide common to most PDE4 subtypes: PDE4A, PDE4D, PDE4B
Specificity	This antibody detects all known PDE4 A and D variants including PDE4A1, A5, Ax, A8, and PDE4D1-D5. It has low affinity for PDE4B variants
Alternative Nomenclature	PDE4A antibody, PDE4B antibody, PDE4C antibody, PDE4D antibody

Physical Properties

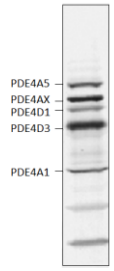
Quantity	100 µg
Volume	200 µl
Form	Affinity Purified Immunoglobulins
Immunoglobulin & Concentration	0.62 mg/ml IgG in antibody stabilization buffer
Storage Instructions	Shipped at 4ºC. Store at 4ºC short term. Upon delivery aliquot. Store at -20ºC or -80ºC for long term storage. Avoid freeze / thaw cycle
Storage Buffer	Preservative: 0.02% Thimerosal / Merthiolate

Recommended Dilutions

DOT Blot	1:10,000
ELISA	1:10,000
Immunocytochemistry	1:200
Immunofluorescence	1:200
Immunohistochemistry	1:200
Immunoprecipitation	1:200
Western Blot	1:500-1:1,000

Related Products	Catalog #
FITC-Conjugated	PD4-FITC
Antigenic Blocking Peptide	P-PD4
Western Blot Positive Control	PC-PD4

Application Verification:



WB of PD4-101AP with rat cortical membranes. 1:500 antibody dilution in DiluObuffer.

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 hydrolyzed and compartmentalized by a family of enzymes called phosphodieterases. The cAMP-specific phosphodiesterase type-4 (PDE4) family is comprised of 4 genes: PDE4A, PDE4B, PDE4C and PDE4D. These 4 genes have multiple splice variants generated by RNA splicing and use of alternate initiation sites (1). The cAMP-dependent protein kinase A modulates the enzyme activity of some PDE4 family members by phosphorylation/dephosphorylation mechanisms (2, 3). Such short-term regulatory mechanisms are necessary for rapid changes in the cAMP levels in cells. A PDE4-family selective inhibitor, rolipram, inhibits all members of the PDE4 family in mM range. PDE4 subtype, selective, and variant selective inhibitors are currently not available. In rodents inhibition of PDE4 enzymes by rolipram attenuated short- and long-term memory impairment produced by the administration of scopolamine and MK801 (3, 4). Interaction of these enzymes with cellular scaffolding proteins plays important role in PDE4 compartmentalization and cAMP-dependent signaling. Members of the PDE4A and PDE4D subtype variants specifically interact with cytoskeletal proteins with SH3 domains or RACK and AKAP for cellular compartmentalization. In brain PDE4A, B and D are associated with GPCRs signaling (5, 6).

The PDE4 family-selective antibody was generated against a common sequence near the C-terminal end that is unique to PDE4 family members. The polyclonal antibody labels PDE4A and PDE4D variants in rat brain and has low affinity for PDE4B variants (6). The PDE4 selective-antibody (PD4-101AP) was generated using cyclic peptide methodology that results in higher titer and specificity (7). Antibody PD4-101AP labels all known PDE4A and PDE4D variants including PDE4A1, A5, Ax, A8 and PDE4D1-D5. Antibodies can also be conjugated with fluorescent probes or secondary enzymes upon request at extra charge. *FabGennix* provides characterized PDE family selective, family subtype-selective and family-subtype-variant selective antibodies for detailed analyses of cAMP signaling pathways, please refer to our catalog for our complete listings.

References:

1. Beavo J. Physiological Rev. 725-784, 1995.
2. Hoffman R., Wilkinson, I. R., McCallum F., Engels P., Houslay M. D. Biochem. J. 333; 139-149, 1998.
3. Zhang H.T and O'Donnell J. M Neuropsychopharmacology 150; 311-316, 2000.
4. Zhang H. T., Crissman A. M., Dorairaj N. R., Chandler L. J., O'Donnell J. M. Neuropsychopharmacology 23, 198-204, 2000.
5. Farooqui S. M., Zhang K., Makhay M., Jackson K., Farooqui S, Q., Cherry J. M and O'Donnell J. M. Brain Res. Brain Res. 867; 52-61 2000
6. Farooqui S. M. Hamdi A., Brock J., Prasad C. J. Neurochem 57;1363-369, 1991.
7. Ye Y., Houslay M. D., Farooqui M. S., Jackson K. T., Chen M., O'Donnell J. M. J. Neurochem. 69; 2397-2404, 1998.

* For users who may require large amounts of the products listed above, please inquire about bulk material discounts.
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