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Rabbit Polyclonal Anti-Phospho-PDE3A antibody

Catalog Number: PPD3A-140AP

Lot Number:

General Information

Product Description	Phospho-PDE3A Antibody Phosphorylated cGMP-inhibited 3',5'-cyclic phosphodiesterase A Antibody Affinity Purified
Accession #	Uniprot: Q9Z0X4 NCBI: EAW74861.1
Verified Applications	ELISA, IP, WB
Species Cross Reactivity	Mouse, Rat Predicted: Human
Host	Rabbit
Immunogen	Synthetic peptide taken within amino acid region 200-300 on mouse PDE3A protein. Phosphorylated Serine 290 and 292 residues.
Specificity	This antibody will detect PDE3A protein when it is phosphorylated at its putative PKB/Akt phosphorylation site.
Alternative Nomenclature	CGI PDE A antibody Cyclic GMP-inhibited phosphodiesterase A antibody PDE 3A antibody Phosphodiesterase 3A antibody

Physical Properties

Quantity	100 µg
Volume	200 µl
Form	Affinity Purified Immunoglobulins
Immunoglobulin & Concentration	1.0-1.25 mg/ml IgG in antibody stabilization buffer
Modification	Phosphorylated Serine 290 and Serine 292.
Storage	Store at -20°C for long term storage.

Recommended Dilutions

DOT Blot	1:10,000
ELISA	1:10,000
Immunoprecipitation	1:200
Western Blot	1:500

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Related Products

Catalog

BIOTIN-Conjugated	PPD3A-BIOTIN
FITC-Conjugated	PPD3A-FITC
Antigenic Blocking Peptide	P-PPD3A
Western Blot Positive Control	PC-PPD3A
PDE3A Antibody (non-phospho)	PD3A-101AP
Goat-PDE3A Antibody (non-phospho)	PD3A-112AP

Overview:

Cyclic nucleotides are hydrolyzed and compartmentalized by a family of enzymes called phosphodiesterases. In mammals at least 12 different families of phosphodiesterases (PDEs) can be discriminated (PDE1-PDE12) based on their kinetic properties and inhibition to various pharmacological agents. The members of the PDE families are known as cGMP inhibited PDEs. The PDE3 enzymes bind both cGMP and cAMP with different affinities, with cAMP 4-10-fold than cGMP. The PDE3 family is comprised of two members: PDE3A and PDE3B. PDE3A is a 125 kDa protein and is expressed in various tissues including myocardium, vascular and non vascular smooth muscles, megakaryocytes and a subset of neurons (1). PDE3A has two splice variants and is expressed in adipocyte tissue, hepatocyte, kidney, spermatocytes and embryonic neuroepithelium (2). Both PDE3A and PDE3B are therapeutic targets for the treatment of obesity as inhibition of PDE3 increases the lipolytic activity and alter the insulin secretion and its response. PDE3 inhibitors also promote thermogenic and cardiogenic effects in animals.

Recent data on PDE3A suggest that the activation of PDE3A by Akt/PKB mediated phosphorylation at serine 290 and serine 292 plays a role in mammalian oocyte maturation and germinal vesicle breakdown (4). Cell free in vitro incubation of recombinant PDE3A with PKB/AKT or cAMP Protein kinase A catalytic subunit led to phosphorylation of PDE3A protein. Microinjection of PDE3A mRNA potentiates insulin dependent maturation of xenopus oocytes and rescue the phenotypes of PDE^{-/-} mouse oocytes. Site directed mutational analyses suggest that substitution of serine 290 and 292 significantly reduce the phosphorylation state of this protein (4).

The Phospho-PDE3A family-selective antibody was generated against a conserved sequence that is unique to PDE3 family members containing phosphorylated serine 290 and serine 292. The phospho serine containing peptide was covalently modified to achieve desired antigenicity before coupling to KLH. Antigenic blocking peptides (P-PPD3A) and western blot positive control (PC-PPD3A) in ready to use SDS-sample buffer are available. The polyclonal antibody labels a protein of apparent MW of 145 kDa in PC-PPD3A samples and in stimulated Jurkat cell and adipocyte membranes. Antibodies can be conjugated to fluorophores and other secondary enzymes upon request at nominal cost. For a complete listing of all antibodies and lab services, please visit <http://fabgennix.com>.

References:

1. Snyder B. P. Emerging Therp. Agents 1999, 3, 587-599.
2. Reinhardt R. R. Chin E., Zhou J et. al., J. Clin Inv. 1995, 125; 1501-1538.
3. Maecchi E. Taira M. Moos M. et. al. Proc. Natl. Acad. Sci. USA 1992, 89; 3721-3725.
4. Han SJ., Vaccari S., Nedachi T., Anderson RA., Conti M. EMBO 25, 5716-5725, 2006.

* For users who may require large amounts of the products listed above, please inquire about bulk material discounts.
This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.