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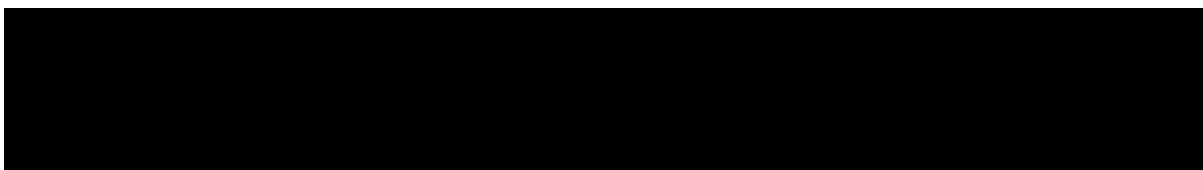
cAMP-dependent phosphodiesterase Type-3 (PDE3) selective antibodies

Phospho-Specific Anti-phosphodiesterase type 3A antibodies (PPD3A-140AP)

Cyclic nucleotides are hydrolyzed and compartmentalized by a family of enzymes called phosphodiesterases. In mammals at least 11 different families of PDEs can be discriminated (PDE1-PDE11) based on their kinetic properties and inhibition to various pharmacological agents. The members of the PDE3 families are known as cGMP inhibited PDEs. The PDE3 enzymes bind both cGMP and cAMP with different affinities (cAMP 4-10-fold than cGMP). The phosphodiesterase type-3 (PDE3) family is comprised of 2 genes (PDE3A and PDE3B). PDE3A is a 145 kDa protein and is expressed in various tissues (myocardium, vascular and non vascular smooth muscles, megakaryocytes and a subset of neurons (1). PDE3B is 1112 amino acids long and has two splice variants which are expressed in adipocyte tissue, hepatocyte, kidney, spermatocytes and embryonic neuroepithelium (2, 3). Both PDE3A and PDE3B are therapeutic targets for the treatment of obesity as inhibition of PDE3 increase the lipolytic activity and alter the insulin secretion and its response. PDE3 inhibitors also promote thermogenic and cardiotoxic effects in animals.

Recent data on PDE3A suggest that 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 invitro incubation of recombinant PDE3A with PKB/AKT or cAMP Protein kinase A catalytic subunit led to phosphorylation of PDE3A protein. Microinjection of PDE3A mRNA potentiate 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-specific PDE3A-selective antibody was generated against phospho-peptide containing serine 290 and serine 292 amino acids along with 6-8 flanking amino acids on either side. The phospho serine containing peptide was covalently modified to achieve desired antigenicity before coupling to KLH. The polyclonal antibody labels a protein of apparent MW of 145 kDa in PC-PPD3A samples and in stimulated Jurkat cell and adipocyte membranes. The phospho-PDE3A-selective antibody is also available in FTIC-conjugated form for confocal, Western blotting and immunocytochemical analyses. *FabGennix Inc.* will also conjugate antibodies with other fluorescent probes upon request at extra charge. *FabGennix Inc.* provides PDE family selective, family subtype-selective and family-subtype-variant selective antibodies for detailed analyses of cAMP and cGMP signaling pathways. The PDE selective-antibodies were generated using cyclic peptide methodology that results in higher titer and specificity. *FabGennix, Inc.*, will also provide Western blot positive controls for PDE3A in phospho and non-phospho-forms in ready-to-use buffer for easy identification of PDE3A proteins. Limited quantities of antigenic peptides are also available. Please inquire for their availability before ordering.



R = rat; M = mouse; H = human; C = chicken; monk = monkey ; * not all variants are labeled equally n/a = not available

- Immunogen:** Synthetic peptide (selective for only PDE3A variant. Peptide sequence: IPG WKR RRR S(p)SS(p) VVA GE
Concentration: PPD3A-140AP IgG concentration 1-1.25 mg/ml in antibody stabilization buffer containing preservatives.
Applications: Antibody PPD3A-140AP is ideal for WB. The dilutions for this antibody is for reference only, investigators are expected to determine the optimal conditions for specific assay in his/her laboratory. WB: <1:500 & IMM & i.p pull-down assays: > n.d
Reactivity: This antibody detects a single 145 kDa phosphorylated PDE3A protein in stimulated Jurkat cell extracts. The antibody does not cross reacts with PDE4A variants nor with any other PDEs.
Protocols: Standard protocol for various applications (Western blot; immunoprecipitation and immunohistochemistry) of this antibody is provided with the product specification sheet, however, *FabGennix Inc.* strongly recommends investigators to optimize conditions for use of this antibody in their laboratories.
(The PDE3A Antibodies are made in rabbit and will require Anti-rabbit-secondary conjugates for detection)
Form/Storage: The antiserum is supplied in antibody stabilization buffer containing preservatives. The purified antibodies are isolated on immobilized antigen based affinity chromatography and supplied as 1-1.25 mg/ml IgG in antibody stabilization buffer. For long-term storage of antibodies, store at -20°C. Now these antibodies can be stored at -20°C and used immediately without thawing. *FabGennix Inc.* does not recommend storage of very dilute antibody solutions unless they are prepared in specially formulated multi use antibody dilution buffer (Cat # DiuOBuffer). Working solutions of antibodies in DiuOBuffer should be filtered through 0.45µm filter after every use for long-term storage.
References:
a. Snyder B. P. Emerging Therp. Agents 1999, 3, 587-599.
b. Reinhardt R. R. Chin E., Zhou J et. al., J. Clin Inv. 1995, 125; 1501-1538.
c. Maecci E. Taira M. Moos M. et. al. Proc. Natl. Acad. Sci. USA 1992, 89; 3721-3725.
d. Han SJ., Vaccari S., Nedachi T., Anderson RA., Conti M. EMBO 25, 5716-5725, 2006.

* For users who may require large amounts of PPD3A-140A, please enquire about bulk material discounts.
This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.

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