

Rabbit Phospho-PDE5A Polyclonal Antibody | anti-PDE5A antibody

Phospho-PDE5A Antibody

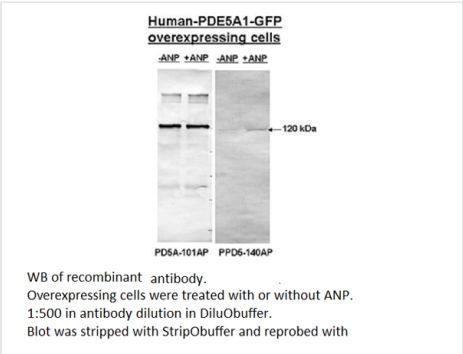
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA76028	Rabbit	Bovine, Human, Mouse, Pig, Rat	Western Blot, Immunoprecipitation, Immunohistochemistry, Immunocytochemistry, ELISA

PRODUCT SYNONYMS

Phospho-PDE5A; Polyclonal Antibody; Phospho-PDE5A Antibody; 5"-cyclic phosphodiesterase; CGB PDE; cGMP binding cGMP specific 3' 5' cyclic nucleotide phosphodiesterase; cGMP binding/cGMP specific phosphodiesterase; cGMP specific phosphodiesterase type 5A; CN5A; CN5N; PDE 5; PDE 5A; PDE5A1; Phosphodiesterase 5A; Phosphodiesterase 5A cGMP specific; Phosphodiesterase isozyme 5 antibody; anti-PDE5A antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Bovine, Human, Mouse, Pig, Rat
Clonality	Polyclonal
Specificity	This antibody will detect only PDE5A protein that has been phosphorylated at the PKG site. Will not detect unphosphorylated PDE5A, or other PDE family members.
Form/Format	Affinity Purified
Concentration	One hundred micograms (100ug) antibody in 200ul of antibody stabilization buffer. (varies by lot)
Sequence Length	921
Applicable Applications for anti-PDE5A antibody	WB (Western Blot), IP (Immunoprecipitation), IHC (Immunohistochemistry), ICC (Immunocytochemistry), ELISA
Immunogen	Synthetic peptide common to all PDE5A variants taken within amino acid region 120-170 on human PDE5A protein. Phosphorylated
Expression	Expressed in aortic smooth muscle cells, heart, placenta, skeletal muscle and pancreas and, to a much lesser extent, in brain, liver and lung.
Modification	Phosphorylated
Molecular Function	Hydrolase, 3', 5'-cyclic-GMP phosphodiesterase activity, cGMP binding
Subcellular Location	Cytosol
Preparation and Storage	-20°C for long term storage



WB (Western Blot)

ADDITIONAL INFORMATION

Related Product Information for anti-PDE5A antibody

The cyclic monophosphate nucleotides, cyclic adenosine monophosphate (cAMP) and cyclic guanosine monophosphate (cGMP) are found ubiquitously in mammalian cells and act as second messenger transducers to effect the intracellular actions of a variety of G-protein coupled receptors (GPCRs) for hormones, cytokines, and neurotransmitters. Cyclic nucleotides are important intracellular second messengers which play important role in a variety of signal transduction process. The cyclic nucleotides are hydrolyzed and compartmentalized by a family of enzymes called phosphodiesterases. One of the many phosphodiesterases that compartmentalized and hydrolyze cGMP in various tissues is phosphodiesterase type 5A (PDE5A). The cGMP is involved in nitric oxide signaling as well as cell signaling associated with natriuretic peptides and gulanylins. Some of the intracellular binding cites for the cGMP include cyclic nucleotide gated ion channels, cGMP-dependent protein kinases, and cyclic GMP binding phosphodiesterases (cGB-PDEs). The cGB-PDEs include PDE2, PDE3, PDE5 and PDE10; the members of these families contain various structural and functional motifs that are conserved. Most of these proteins contain dimmeric subunits that contain a highly conserved cGMP binding site and a phosphodiesterase catalytic site. The cGMP-specific phosphodiesterase type-5A (PDE5A) family is comprised of single gene with multiple splice variants (PDE5A1 and PDE5A2) generated by RNA splicing and use the of alternate initiation sites (1, 2). PDE5 is highly expressed in aorta, lungs, intestine, kidney adrenal gland, cerebellum, and cerebrum. In cerebellum, the PDE5 is highly expressed during neonatal development in Purkinje cells layer. PDE5 is also abundant in vascular smooth muscle regulating cGMP levels and vascular smooth muscle tonicity. In corpus cavernosum inhibition of PDE5 by sildenafil corrects erectile dysfunctions. The nitric oxide donor sodium notropurside (SNP) stimulate PDE5 activity by cGMP-dependent kinase phosphorylation (Rybalkin et. al., 2002; Murthy 2001). PDE5A1 has 875 amino acids (99.5 kDa). The amino terminal 142 amino acid of the PDE5 gene showed no sequence homology with other PDEs and also contained serine 92 that is phosphorylated by cGMP-kinases (McAllister et al., 93). A phospho-specific PDE5A antibody was generated against the conserved PKG phosphorylation site.

The affinity purified antibody labels PDE5A proteins when they are phosphorylated at Ser92 by PKG. The PDE5-selective antibody (PD5A-101AP) was generated using cyclic peptide methodology that results in higher titer and specificity (3). The PDE5-selective antibodies are generated against peptides from unique sequences on the PDE5A gene. The affinity purified antibody labels 99 and 89 kDa PDE5A1 and PDE5A2 proteins using PDE5A WB positive controls (PC-PD5A). The PDE5A-specific antiserum has no cross reactivity against PDE5B protein or any other member of the fast growing family of PDEs. FabGennix can conjugate antibodies with enzymes, fluorescent probes upon request at extra charge. We provide well characterized antibodies to other PDE family members including family selective, family subtype-selective, and family subtype variant selective antibodies. The PDE antibodies are available in family-selective, family subtype-selective and family-subtype-variant selective categories for detailed analyses of cyclic nucleotide signaling pathways. The Phospho-PDE5-selective antibodies ([MBS540079](#)) are generated against peptide (C-GTP TRK ISPA SEF DR) containing PKG phosphorylation site and is conserved in many species. For detection of PDE5A protein an affinity purified mono-specific polyclonal antibody (MBS540079) and Western blot positive control for PDE5A is also available from the lab. The PDE5A-specific antiserum has no cross reactivity against PDE5B protein or any other member of the fast growing family of PDEs. The PDE5A antibody labels both PDE5A1 and PDE5A2 variants in various tissues including lungs and brain. The lab will also conjugate antibodies with enzymes, fluorescent probes upon request at extra charge

Product Categories/Family for anti-PDE5A antibody

[Primary Antibodies](#); [Signal Transduction](#); [Phosphodiesterases](#); [Phospho-PDE5A Antibody](#)

NCBI AND UNIPROT INFORMATION

NCBI GI #	119625682
NCBI GeneID	8654
NCBI Official Full Name	phosphodiesterase 5A, cGMP-specific, isoform CRA_c
NCBI Official Synonym Full Names	phosphodiesterase 5A
NCBI Official Symbol	PDE5A
NCBI Official Synonym Symbols	CN5A; PDE5; CGB-PDE
NCBI Protein Information	cGMP-specific 3',5'-cyclic phosphodiesterase
UniProt Protein Name	cGMP-specific 3',5'-cyclic phosphodiesterase
UniProt Gene Name	PDE5A
UniProt Synonym Gene Names	PDE5; CGB-PDE
UniProt Entry Name	PDE5A_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com
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