

Rabbit Polyclonal Natriuretic Peptide Receptor B / PGCB antibody

Catalog Number: PGCB-201AP

Lot Number:

General Information

Product Description	Natriuretic Peptide Receptor B / PGCB Antibody Atrial natriuretic peptide receptor 2 Antibody Affinity Purified
Accession #	Uniprot: P20594
Verified Applications	CM, ELISA, ICC, IF, IHC, IP, WB
Species Cross Reactivity	Human, Mouse, Rat
Host	Rabbit
Immunogen	Synthetic C-terminal peptide corresponding to unique amino acid sequences on Particulate Guanylyl Cyclase B protein.
Alternative Nomenclature	AMDM antibody, ANPRB antibody, Atrial natriuretic peptide B type receptor antibody, GCB antibody, Guanylate cyclase B antibody, GUC2B antibody, GUCY2B antibody, Natriuretic peptide receptor B antibody, NPR2 antibody, NPRB antibody, OTTHUMP00000045390 antibody

Physical Properties

Quantity	100 µg
Volume	200 µl
Form	Affinity Purified Immunoglobulins
Immunoglobulin & Concentration	0.75-1.20 mg/ml IgG in antibody stabilization buffer
Storage	Store at -20°C for long term storage.

Recommended Dilutions

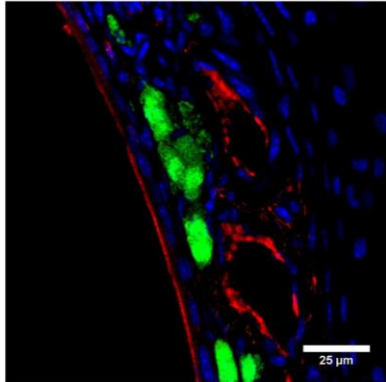
DOT Blot	1:10,000
ELISA	1:10,000
Immunocytochemistry	1:50-1:200
Immunofluorescence	1:50-1:200
Immunohistochemistry	1:200
Immunoprecipitation	1:200
Western Blot	1:500

Related Products

Catalog

BIOTIN-Conjugated	PGCB-BIOTIN
FITC-Conjugated	PGCB-FITC
Antigenic Blocking Peptide	P-PGCB
Western Blot Positive Control	PC-PGCB

Application Verification:



IF of PGCB-201AP with thin section of mouse nose tissue. Green: Grueneberg ganglion neurons. Red: antibody immunoreactivity. Blue: Nuclei. Staining is found on blood vessel walls. Data provided by Dr. Kroos lab Caltech, Pasadena, CA.

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 GMP (cGMP), a key messenger in several signal transduction pathways, intracellular levels are maintained by the activity of opposing enzymes: synthesizing guanylyl cyclases (GC) and hydrolyzing phosphodiesterases (PDEs). The synthesizing enzymes (GCs) are found in two forms: cytosolic (soluble) and membrane-bound (particulate). While they share similar structural characteristics, they differ in their mechanisms of physiological regulations. Most importantly, soluble GC (sGC) contains a heme group and binds nitric oxide (NO) that activates the enzyme, while particulate GC (PGCs) are stimulated by natriuretic peptides. Particulate forms of guanylyl cyclases have been shown to function as natriuretic peptide receptors. In response to G-protein coupled receptor stimulation, the cGMP can be produced from GTP by either sGC or by PGC. The sGC are heterodimers (α & β polypeptide chains), that are stimulated by NO and carbon monoxide or by particulate membrane-bound guanylyl cyclases which are activated by a complex mechanism by natriuretic peptides. PGCs have 7 different isoforms, PGC-A through PGC-G, and are expressed in most tissues in isoform specific manner. There is significant structural homology among various PGCs; there is a large N-terminal extracellular domain (ECD), a single TMD and a large intracellular domain with protein kinase activity (KLD), a C-terminal catalytic domain (CD) and in between is a dimerization domain (DD). Guanylyl cyclase B (PGC-B) is a receptor for B type brain natriuretic peptide (BNP) and is 78% identical to PGCA in the ECD but only 43% in the CD. The binding of a ligand to the extracellular domain of PGC-B triggers signal that control central and peripheral cardiovascular homeostasis. Both PGC-A and PGC-B are phosphorylated at Serine residues in the KLD (2). Non-ionic detergents stimulated particulate guanylate cyclase activity in cerebral cortex of rat 8- to 12-fold while stimulation of soluble enzyme was 1.3- to 2.5-fold (2).

The Anti-PGC-B-selective antibodies were generated against conserved sequences near the C-terminal end of the protein that are unique to PGC-B protein. The PGC-B-selective antibodies are affinity purified against immobilized antigen based affinity chromatography that yielded epitope-specific antibodies. The PGC-B antibodies label a 120-122 kDa protein in various tissues including brain, kidney, testis and spleen.

FabGennix Inc. also provides antibodies to other family members of the particulate GC (PGCA-PGCG) and to various adenylate cyclases (AC-1 through AC-9). FabGennix employs cyclic peptide methodology for generating antibodies, which results in higher titer and specificity (6). Antigenic blocking peptide and western blot positive controls are available for most cataloged antibodies. Antibodies can be conjugated to fluorescent probes or secondary enzymes upon request at extra charge.

References:

1. Potter LR, Hunter T. J Biol Chem. 1998 Jun 19;273(25):15533-9.
2. Deguch T., Amano E., Nakeane M. J. Neurochem. 27, 1027-1034, 1976.
3. Rehemudula D, Nakayama T, Soma M, Takahashi Y, Uwabo J, Sato M, Izumi Y, Kanmatsuse K, Ozawa Y. Circ Res. 1999 Mar 19;84(5):605-10.

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