



FabGennix Inc.
INTERNATIONAL

New Item New Item

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Soluble Guanylyl Cyclase selective antibodies

Anti-Guanylyl cyclase Beta1/3 subunit antibodies (sGCB-200P and sGCB-201AP)

The cellular levels of Cyclic GMP (cGMP), a key messenger in several signal transduction pathways, are maintained by the orchestrated activities of two 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). In last several years new members of particulate guanylate cyclase family have been identified and significant progress is made in understanding the molecular mechanisms that underlie the regulation of these family of enzymes. In response to G-protein couples receptor stimulation, the cGMP can be produced from GTP by either cytoplasmic, soluble guanylate cyclase (sGC) are heterodimers (α and β polypeptide chains), that are stimulated by nitric oxide and carbon monoxide or by particulate membrane-bound guanylyl cyclases which are activated by a complex mechanism by natriuretic peptides. Particulate GC (PGCs) have 7 different isoforms, PGC-A through PGC-G and are expressed in most tissues in isoform specific manner (See Table 1). 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). It has been shown that a significant number hippocampal astrocytes (67%) contained both soluble and particulate guanylate cyclases in the same cell (2).

#	Type ⁽²⁾	Tissue Distribution
1	PGC-A	Ubiquitous, B, K, L, T, H, Immune system
2	PGC-B	Majority of tissues, B, K, L, S, T, E
3	PGC-C	Intestinal track, marker of Colorectal cancer
4	PGC-D	Mainly in Olfactory cells
5	PGC-E	Photoreceptor cells (retinal GC1 & ret GC2)
6	PGC-F	Pineal gland of rat, chicks and bovine
7	PGC-G	Lung, intestine and skeletal muscle
8	sGC- α	Ubiquitous
9	sGC- β	Ubiquitous

B= brain; E= eye; H= heart; K= kidney; L= liver; S= spleen

The Anti-sGCB-selective antibodies were generated against conserved sequence near the middle of the protein (aa 189-207) that are unique to sGC-B1 subunit and is conserved in human with a single conservative substitution (Asp to Glu) in human protein. Soluble guanylate cyclase beta 1 chain is 75-76 kDa. The sGCB-selective antibodies are affinity purified against immobilized antigen based affinity chromatography which yielded epitope -pecific antibodies. The sGCB antibodies label a 76 kDa protein in soluble guanylate cyclase B Western blot positive control. Anti-sGCB-selective antibodies are also available in affinity-purified form for confocal, WB and IHC analyses. *FabGennix Inc.* will also conjugate antibodies with fluorescent probes upon request at extra charge.

FabGennix Inc. also provides antibodies to other family members of particulate GC (PGC-A, C, D, and G) and to adenylate cyclases (AC-1 through 9). *FabGennix Inc.*, employs cyclic peptide methodology for generating high affinity antibodies (6). *FabGennix, Inc.*, also stock Western blot positive controls for most of these antibodies in ready-to-use buffer for easy identification of respective proteins. Limited quantities of antigens are also available for blocking studies. Please enquire for their availability before ordering.

Catalog #	Host Species	Nature	Cross reactivity	Quantity	Price
sGCB-200P	Rabbit	Affinity purified Antibody	R, M, H	100 μ l	205
sGCB-201AP	Rabbit	Affinity purified Antibody	R, M, H	100 μ g	225
P-sGCB	Peptide	Blocking antigenic peptide	n/a	250 μ g	75
PC-sGCB	Controls	WB Positive control	R	5 appl	165
PGC-Sampler	Rabbit	Affinity purified sPGCB Antibody	R, M, H	50 μ g	100 μ l

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

Immunogen: Synthetic C-terminal peptide for soluble guanylyl cyclase Beta. Peptide was amidated before conjugation.

Concentration: sGCB-201AP 0.75-1.2 mg/ml of antibody stabilization buffer

Applications: Antibody dilutions for this antibody is for reference only, investigators are expected to determine optimal conditions. sGCB-201AP is tested for WB application at 1:500 dilution. Other applications for this antibody has not been tested. WB: > 1:500; IMM & i.p pull-down assays: n.d; IHC n.d

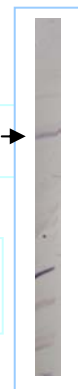
Protocols: Standard protocol for various applications (WB; IMM & IHC) of this antibody is provided with the product specification sheet, however, *FabGennix Inc.* strongly recommends investigators to optimize conditions for use of this antibody in their laboratories.

References:

1. Wedel B. J and Garbers D. L., *Trend Endocrinol. Met.* 9, 213-219; 1998
2. Kobiakka M and Garczyca W.A. *Acta Biochimica Polonica* 47, 517-528, 2000.
3. Teunissen C et. al., *Brain Res.* 891, 206-212; 2001.

76 kDa sGCB subunit

Western blot of PC-PGCB with 1:450 diluted PGC-200P



* For users who may require large amounts of sGCB-200P or sGCB-201AP, 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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