



FabGennix Inc.
INTERNATIONAL

New Item
New Item

Customer Service: 1-800 786 1236
Technical Service: 214 387 8105
Fax: 214 387 0870
Info@fabgennix.com
www.fabgennix.com

Alzheimers Related Antibodies

G-protein coupled receptor 3 (GPCR3) antibodies (Cat GPCR3-101AP, P-PGCR3 and PC-GPCR3)

Alternate nomenclature/Accession #: GPR3, Orphan receptor 3.

Accumulation of beta amyloid beta peptide (AbP) is a central pathological characteristic of Alzheimer diseased (AD) brain. The APP is generated by sequential cleavages of the beta amyloid precursor protein (APP) by alpha, beta and gamma secretases (1). The action of alpha secretase with in the AbP generates the AbP sequences and all three secretases are considered to be relevant to therapeutic target for AD. The high throughput functional genomics screening utilizing fulllength human FLeXSelect cDNA library composed of 4217 individual adenoviruses representing the transcript of 1905 unique genes encoding potential drug targets was carried out to identify modulators of ABP production (1). Several primary hits affecting AbP were identified including those which are known previously to affect AbP generation like HTR2C, PTGER2 led to an increase in (AbP1-42) production (2) while BACE2 repressed Abp production (3). After application of several prioritizing criteria as secondary assays, including secreted alkaline phosphatase (SEAP) assay, RNA interference assay, real-time PCR, and mass spectrometric analyses of immunoprecipitated AbP one candidate was identified as GPCR3. The GPCR3 gene is mapped to the candidate AD linkage region on chromosome 1p36.1-p34.3. GPCR3 is predominantly expressed in CNS (4). Induction of GPCR3 in human neuroblastoma SHSY-5Y or human embryonic kidney (HEK293) cells led to a robust increase in AbP1-40 and AbP1-42 which is independent of beta secretase expression (1). Mechanistically GPCR3 increases AbP production by increasing the activities of gamma secretase subunits.

GPCR3 is an orphan receptor, but sphingosine and its metabolites (SPC and S1P) are supposedly act as putative ligands and activate the receptor. Expression of GPR3 along with GPR12 and Edg3 this receptor in xenopus oocytes control the cytosolic levels of cAMP and down regulation of GPR3 caused a meiotic resumption in mouse and rat oocyte (3). Incubation of mouse oocytes with the GPR3/12 ligands SPC and S1P delayed spontaneous oocyte maturation, suggesting that basal cAMP levels are maintained by GPR3 and GPR12 receptors in mouse/rat oocytes. GPCR3 is a 7TMD receptor with an apparent molecular weight of 45kDa. There are putative glycosylation sites on the amino terminal end of protein and the third large intra cytoplasmic loop may be the site of protein-protein interaction as evident in many other GPCRs. The receptor is expressed in CNS, gonads and some other organs. Gene bank has at least three variants of rat GPCR3 receptor.

FabGennix has made rabbit GPCR3-specific antibodies using peptide taken from unique region from near the amino-terminal end of the protein. The antigenic peptide was post-synthetically modified and covalently coupled to achieve desired antigenicity before using it as an immunogen to immunize rabbits. The rabbit antibodies obtained were isolated and purified on an immobilized antigen based affinity chromatographic matrix before stabilizing them in antibody stabilization buffer. GPCR3 antibodies labels GPCR3 protein as a single 45kDa band in PC-GPCR3 samples. Limited quantity of blocking peptide and Western blot positive controls for GPCR3 in ready-to-use buffer (Cat PC-GPCR3) is also available, please inquire before placing order. *FabGennix Inc.* will conjugate this antibody to fluorophores, secondary enzymes or biotin, inquire for pricing and availability. FabGennix has made a number of antibodies against GPCR and other orphan receptors, for a complete listing please visit www.fabgennix.com.

Catalog #	Description	Host	Cross reactivity	Qty
GPCR3-101AP	Affinity purified GPCR3 Antibody	Rabbit	R, M	100 ug
P-GPCR3	Antigenic blocking peptide for GPCR3-101AP	Rabbit	n/a	250ug
PC-GPCR3	Western blot positive control for rat GPCR3	Partially purified protein	n/a	For 5 applications

R = rat, M = mouse; H = humans; R = rabbit, C = cow, mon = monkey. WB, Western Blot analyses; IMM, Immunoprecipitation; IHC, Immunohistochemistry, n.d. not determine.

Immunogen: Synthetic peptide from amino acids 14-35 corresponding to the following sequence (sid pae ept gpa tll sp), was selected from the unique region of the rat GPCR3 protein, synthetic peptide was post-synthetically modified to achieve desired antigenicity before coupling to carrier protein using heterobifunctional cross linker for immunogen preparation.

Concentration: Antibodies GPCR3-101AP was purified on immobilized antigen based affinity chromatography, purified IgG concentration is 0.63-0.66mg/ml in antibody stabilization buffer.

Applications: ELISA/dot blot: Antibody dilution 1:20,000-1:50,000;. Western blot: Antibody dilution 1:500-750 in diluObuffer for use with PC-GPCR3 sample 25ul/lane. Other applications (IHC, confocal and Immunoprecipitation for these antibodies is not established. Use of this antibody in applications not listed here does not necessarily exclude its use in such procedures. If you are going to use this antibodies in applications not listed here and would like to try this antibody in your assay, please contact us for a complimentary sample of this antibody.

Reactivity The antibody PGCR3-101AP labels a 45kDa Drain protein band in PC-PGCR3 samples. The higher MW obtained is primarily due to post-translational modifications on this receptor.

Protocols: General information about this antibody is provided with the product. Standard protocol for various applications (WB; immunoprecipitation and IHC) of this antibody can be obtained by contacting our Technical support line. The recommended dilutions are for reference only and FabGennix Inc. strongly recommends investigators to optimize conditions for use of this product in their laboratories.

Form/Storage: The antiserum is supplied in antibody stabilization buffer with preservatives. For long-term storage of antibody, store at -20°C FabGennix Inc. does not recommend storage of very dilute antibody solutions unless they are prepared in specially formulated multi use antibody dilution buffer (Cat # DiluOBuffer). Working solutions of antibodies in DiluOBuffer should be filtered through 0.45um filter after every use for long-term storage.

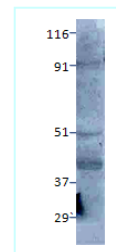
Notes: Briefly centrifuge to collect liquid, heat or boil PC-GPCR3 tube for 1-2 minutes to dissolve any precipitate before use. This product is "ready-to-use" for electrophoresis. After thawing store at room temperature, Repeated freezing and thawing may result in appearance of higher molecular weight immunoreactive bands.
Now Western blots can be stripped and recycle using our specially formulated StripObuffer (Cat # FGI-1989) up to 8 times with out any distortion and significant loss in signal to noise ratios. This stripping buffer does not require heating or have any pungent smell.

References:

1. Thathiah A., Spittaels K., Hoffmann, M., et al., the orphan G-protein coupled receptor 3 modulates Amyloid-beta peptide generation in neurons. Science 323, 946-951, 2009.
2. Pooler AM., Arjona R.K., Lee R.K. Wurtman, R. J., Neurosci Lett. 362, 127- (2004).
3. Saunders AJ, Kim TW., Tanzi RE. Science 286, 1255a, 1999.
4. Tanaka S., Ishil K., Kasai K., Yoon SO. J. Biol. Chem 282, 10506- 2007.

* For users who may require large amounts of GPCR3-101AP, please enquire about bulk material discounts.
This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.

A052909-0020SF1002Z-rev10.00



Western blot of GPCR3-101AP with PC-GPCR3. Apparent MW of GPCR3 is 41 kDa.

FabGennix Inc.
INTERNATIONAL

5850 Town and Country Blvd, Suite 301, Frisco, TX 75034
Customer service: 1800 786 1236; Technical Support: 214 387 8105