SunLong Biotech Co.,LTD
Tel: 0086-571-56623320 Fax:0086-571-56623318
E-mail:sales@sunlongbiotech.com
www.sunlongbiotech.com

# Rabbit Anti-GABABR1 antibody

SL0533R

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| **Product Name** | GABABR1 |
| **Chinese Name** | gamma 氨基丁酸 B 型受体 1 抗体 |
| **Alias** | GABAb Receptor 1; dJ271M21.1.1; dJ271M21.1.2; FLJ92613; GAB B R1; GABA B R1; GABAB R1; GABAB subunit 1c; GABAB(1e); GABABR 1; GABABR1; GABB R1; GABBR 1; GABBR1 3; GABBR1; Gamma aminobutyric acid (GABA) B receptor 1; Gamma aminobutyric acid B receptor 1; Gamma aminobutyric acid type B receptor subunit 1; Gb 1; Gb1; GPRC 3A; GPRC3A; hGB1a; GABR1_HUMAN; Gamma-aminobutyric acid type B receptor subunit 1; GABA B Receptor 1; GABA-B receptor 1; GABA-B-R1; GABA-BR1; GABABR1; Gb1; Seven transmembrane helix receptor. |
| **Research Area** | Neurobiology G protein-coupled receptor G protein signal |
| **Immunogen Species** | Rabbit |
| **Clonality** | Polyclonal |
| **React Species** | Human, Rat, (predicted: Mouse, Dog, Cow, Horse, ) |
| **Applications** | IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=1ug/Test （Paraffin sections need antigen repair）<br>not yet tested in other applications.<br>optimal dilutions/concentrations should be determined by the end user. |
| **Theoretical molecular weight** | 108kDa |
| **Cellular localization** | cytoplasmic The cell membrane Secretory protein |
| **Form** | Liquid |
| **Concentration** | 1mg/ml |
| **immunogen** | KLH conjugated synthetic peptide derived from human GABABR1: 651-750/961 |
| **Lsotype** | IgG |
| **Purification** | affinity purified by Protein A |
| **Buffer Solution** | 1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol. |

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| **Storage** | Shipped at 4℃. Store at -20 ℃ for one year. Avoid repeated freeze/thaw cycles. |
| **Attention** | This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications. |
| **PubMed** | PubMed |

**Product Detail**

Gamma-aminobutyric acid (GABA) is the main inhibitory neurotransmitter in the mammalian central nervous system. GABA exerts its effects through ionotropic [GABA(A/C)] receptors, to produce fast synaptic inhibition, and metabotropic [GABA(B)] receptors, to produce slow, prolonged inhibitory signals. The GABA(B) receptor consists of a heterodimer of two related 7-transmembrane receptors, GABA(B) receptor 1 and GABA(B) receptor 2. The GABA(B) receptor 1 gene is mapped to chromosome 6p21.3 within the HLA class I region close to the HLA-F gene. Susceptibility loci for multiple sclerosis, epilepsy, and schizophrenia have also been mapped in this region. Alternative splicing of this gene generates multiple transcript variants. [provided by RefSeq, Jun 2009].

**Function:**
Receptor for GABA. The activity of this receptor is mediated by G-proteins that inhibit adenylyl cyclase activity, stimulates phospholipase A2, activates potassium channels, inactivates voltage-dependent calcium-channels and modulates inositol phospholipids hydrolysis. Plays a critical role in the fine-tuning of inhibitory synaptic transmission. Pre-synaptic GABA-B-R inhibit neurotransmitter release by down-regulating high-voltage activated calcium channels, whereas postsynaptic GABA-B-R decrease neuronal excitability by activating a prominent inwardly rectifying potassium (Kir) conductance that underlies the late inhibitory postsynaptic potentials. Not only implicated in synaptic inhibition but also in hippocampal long-term potentiation, slow wave sleep, muscle relaxation and antinociception. Activated by (-)-baclofen, cgp27492 and blocked by phaclofen.
Isoform 1E function may be to regulate the availability of functional GABA-B-R1A/GABA-B-R2 heterodimers by competing for GABA-B-R2 dimerization. This could explain the observation that certain small molecule ligands exhibit differential affinity for central versus peripheral sites.

**Subunit:**
Heterodimer of GABA-B-R1 and GABA-B-R2. Neither of which is effective on its own and homodimeric assembly does not seem to happen. Isoform 1E (without C-terminal intracellular domain) is unable to dimerize via a coiled-coil interaction with GABA-B-R2. Interacts with the leucine zipper of the C-terminal bZIP domain of ATF4 via its C-terminal region. Interacts with JAKMIP1.

**Subcellular Location:**
Cell membrane; Multi-pass membrane protein. Cell junction, synapse, postsynaptic cell membrane; Multi-pass membrane protein. Note=Colocalizes with ATF4 in hippocampal neuron dendritic membranes (By similarity). Moreover coexpression of

GABA-B-R1 and GABA-B-R2 appears to be a prerequisite for maturation and transport of GABA-B-R1 to the plasma membrane. Isoform 1E: Secreted (Probable).

**Tissue Specificity:**
Highly expressed in brain and weakly in heart, small intestine and uterus. Isoform 1A is mostly expressed in granular cell and molecular layer. Isoform 1B is mostly expressed in Purkinje cells. Isoform 1E is predominantly expressed in peripheral tissues as kidney, lung, trachea, colon, small intestine, stomach, bone marrow, thymus and mammary gland.

**Similarity:**
Belongs to the G-protein coupled receptor 3 family. GABA-B receptor subfamily. Contains 2 Sushi (CCP/SCR) domains.

**SWISS:**
Q9UBS5

**Gene ID:**
2550

**Database links:**

Entrez Gene: 2550 Human

Entrez Gene: 54393 Mouse

Entrez Gene: 81657 Rat

Omim: 603540 Human

SwissProt: Q9UBS5 Human

SwissProt: Q9WV18 Mouse

SwissProt: Q9Z0U4 Rat

Unigene: 167017 Human

Unigene: 32191 Mouse

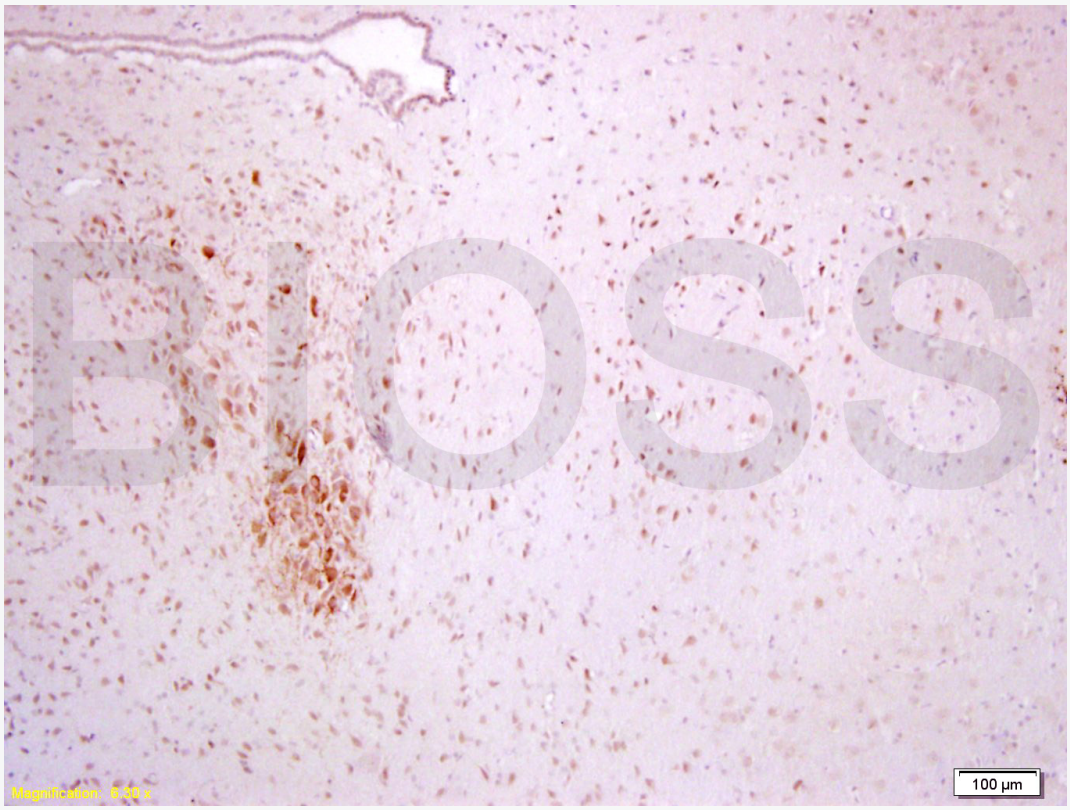
Unigene: 30059 Rat

g-氨基丁酸(GABA)是哺乳动物中枢神经系统中重要的抑制性神经递质，在体内通过作用于离子通道型的 GABAA、GABAC 受体及代谢型的 GABAB 受体而发挥生理功能。

$GABAB_1$ 受体存在于神经元的突触前及突触后部位，介导慢的抑制性效应，在

脑内参与许多重要的生理活动和病理变化，包括认知损害、癫痫、痉挛及药物成瘾等。GABAB 受体属于 G protein-coupled receptor 家族的 C 家族，具有七次跨膜结构，N-端位于胞外，C-端位于胞内。

**Product Picture**




Tissue/cell: rat brain tissue; 4% Paraformaldehyde-fixed and paraffin-embedded; Antigen retrieval: citrate buffer ( 1M, pH 6.0 ), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 20 min;
Incubation: Anti-GABABR1Y Polyclonal Antibody, Unconjugated(SL0533R) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining

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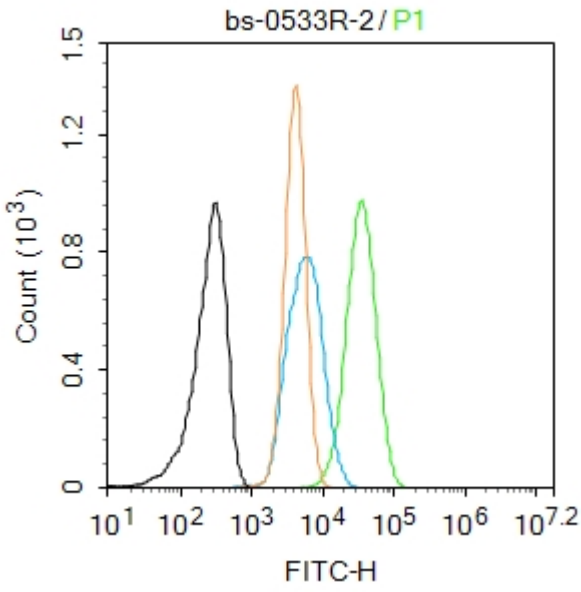



Blank control:A431.

Primary Antibody (green line): Rabbit Anti-GABABR1 antibody (SL0533R)

Dilution: 2µg /10^6 cells;

Isotype Control Antibody (orange line): Rabbit IgG .

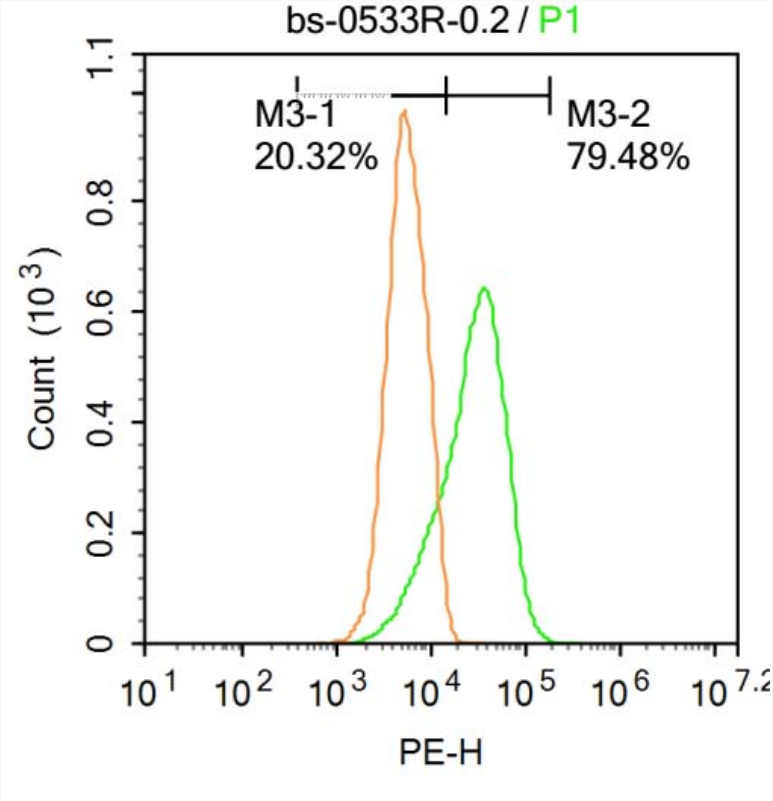
Secondary Antibody : Goat anti-rabbit IgG-AF488

Dilution: 1µg /test.

Protocol

The cells were fixed with 4% PFA (10min at room temperature)and then permeabilized with 0.1% PBST for 20 min at room temperature.The cells were then incubated in 5%BSA to block non-specific protein-protein interactions for 30 min at room temperature .Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature.

Acquisition of 20,000 events was performed.




Blank control: Raji.

Primary Antibody (green line): Rabbit Anti-GABABR1 antibody (SL0533R)

Dilution: 1μg /10^6 cells;

Isotype Control Antibody (orange line): Rabbit IgG .

Secondary Antibody : Goat anti-rabbit IgG-PE

Dilution: 1μg /test.

Protocol

The cells were fixed with 4% PFA (10min at room temperature)and then

permeabilized with PBST for 20 min at room temperature. The cells were then incubated in 5%BSA to block non-specific protein-protein interactions for 30 min at at room temperature .Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000 events was performed.