10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

GABA B Receptor 1 Antibody

Rabbit mAb
Catalog # AP91469

Product Information

Application	WB
Primary Accession	Q9UBS5
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Other Names	GABA-B receptor 1; GABA-B-R1; GABAB R1; GABAB subunit 1c; GABABR1; GABBR1 3; Gamma aminobutyric acid (GABA) B receptor 1; Gb1; GPRC3A;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	108320

Additional Information

Dilution	WB 1:500~1:2000
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human GABA B Receptor 1
Description	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.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

Protein Information

Name	GABBR1
Synonyms	GPRC3A
Function	Component of a heterodimeric G protein-coupled receptor for GABA, formed by GABBR1 and GABBR2 (PubMed:15617512, PubMed:18165688, PubMed:22660477, PubMed:24305054, PubMed:36103875, PubMed:9872316, PubMed:9872744). Within the heterodimeric GABA receptor, only GABBR1 seems to bind agonists, while GABBR2 mediates coupling to G proteins (PubMed:18165688). Ligand binding causes a conformation change that triggers signaling via guanine nucleotide-binding proteins (G proteins) and modulates the activity of down-stream effectors, such as adenylate cyclase (PubMed:10075644, PubMed:10773016, PubMed:10906333, PubMed:24305054, PubMed:9872744). Signaling inhibits adenylate cyclase, stimulates phospholipase A2, activates potassium channels, inactivates

voltage-dependent calcium-channels and modulates inositol phospholipid hydrolysis (PubMed:10075644). Calcium is required for high affinity binding to GABA (By similarity). Plays a critical role in the fine- tuning of inhibitory synaptic transmission (PubMed:9844003). Pre- synaptic GABA receptor inhibits neurotransmitter release by down- regulating high-voltage activated calcium channels, whereas postsynaptic GABA receptor decreases neuronal excitability by activating a prominent inwardly rectifying potassium (Kir) conductance that underlies the late inhibitory postsynaptic potentials (PubMed:10075644, PubMed:22660477, PubMed:9844003, PubMed:9872316, PubMed:9872744). Not only implicated in synaptic inhibition but also in hippocampal long-term potentiation, slow wave sleep, muscle relaxation and antinociception (Probable). Activated by (-)-baclofen, cgp27492 and blocked by phaclofen (PubMed:24305054, PubMed:9844003, PubMed:9872316).

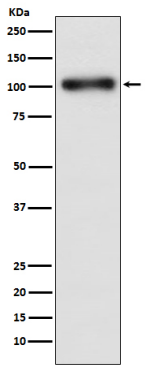
Cellular Location

Cell membrane; Multi-pass membrane protein. Postsynaptic cell membrane {ECO:0000250|UniProtKB:Q9Z0U4}; Multi-pass membrane protein. Cell projection, dendrite {ECO:0000250|UniProtKB:Q9Z0U4}. Note=Colocalizes with ATF4 in hippocampal neuron dendritic membranes (By similarity). Coexpression of GABBR1 and GABBR2 is required for GABBR1 maturation and transport to the plasma membrane (PubMed:15617512). {ECO:0000250|UniProtKB:Q9Z0U4, ECO:0000269|PubMed:15617512}

Tissue Location

Highly expressed in brain (PubMed:9753614, PubMed:9844003, PubMed:9872744). Weakly expressed in heart, small intestine and uterus. Isoform 1A: Mainly expressed in granular cell and molecular layer (PubMed:9844003). Isoform 1B: Mainly expressed in Purkinje cells (PubMed:9844003). Isoform 1E: Predominantly expressed in peripheral tissues as kidney, lung, trachea, colon, small intestine, stomach, bone marrow, thymus and mammary gland (PubMed:10906333)

Images



Western blot analysis of GABA B Receptor 1 expression in HeLa cell lysate.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.