

Anti-GABAB R1 antibody



Description Rabbit polyclonal to GABAB R1.

Model STJ93194

Host Rabbit

Reactivity Human, Mouse, Rat

Applications ELISA, IF, WB

Immunogen Synthesized peptide derived from human GABAB R1

Immunogen Region 870-950 aa, C-terminal

Gene ID <u>2550</u>

Gene Symbol GABBR1

Dilution range WB 1:500-1:2000IF 1:200-1:1000ELISA 1:5000

Specificity GABAB R1 Polyclonal Antibody detects endogenous levels of GABAB R1

protein.

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.

Purification The antibody was affinity-purified from rabbit antiserum by affinity-

chromatography using epitope-specific immunogen.

Note For Research Use Only (RUO).

Protein Name Gamma-aminobutyric acid type B receptor subunit 1 GABA-B receptor 1

GABA-B-R1 GABA-BR1 GABABR1 Gb1

Molecular Weight 108 kDa

Clonality Polyclonal

Conjugation Unconjugated

Isotype IgG

Formulation Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.

Concentration 1 mg/ml

Storage Instruction Store at -20°C, and avoid repeat freeze-thaw cycles.

Database Links <u>HGNC:40700MIM:603540</u>

Alternative Names Gamma-aminobutyric acid type B receptor subunit 1 GABA-B receptor 1

GABA-B-R1 GABA-BR1 GABABR1 Gb1

Function Component of a heterodimeric G-protein coupled receptor for GABA, formed

by GABBR1 and GABBR2. Within the heterodimeric GABA receptor, only GABBR1 seems to bind agonists, while GABBR2 mediates coupling to G proteins. 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. Signaling inhibits adenylate cyclase, stimulates phospholipase A2, activates potassium channels, inactivates voltage-dependent calcium-channels and modulates inositol phospholipid hydrolysis. Calcium is required for high affinity binding to GABA. Plays a critical role in the fine-tuning of inhibitory synaptic transmission. 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. 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 may regulate the formation of functional GABBR1/GABBR2 heterodimers by competing for GABBR2

Sequence and Domain Family

Alpha-helical parts of the C-terminal intracellular region mediate heterodimeric interaction with GABBR2. The linker region between the transmembrane domain 3 (TM3) and the transmembrane domain 4 (TM4) probably plays a role in the specificity for G-protein coupling.

binding. This could explain the observation that certain small molecule ligands exhibit differential affinity for central versus peripheral sites.

Cellular Localization

Cell membrane. Multi-pass membrane protein. Cell junction, synapse, postsynaptic cell membrane. Multi-pass membrane protein. Cell projection, dendrite. Colocalizes with ATF4 in hippocampal neuron dendritic membranes . Coexpression of GABBR1 and GABBR2 is required for GABBR1

maturation and transport to the plasma membrane. Isoform 1E: Secreted