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GABBR2 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1903a

Product Information

Application	WB, IHC, E
Primary Accession	O75899
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	5G7B9
Isotype	IgG2a
Calculated MW	105821
Description	The multi-pass membrane protein encoded by this gene belongs to the G-protein coupled receptor 3 family and GABA-B receptor subfamily. The GABA-B receptors inhibit neuronal activity through G protein-coupled second-messenger systems, which regulate the release of neurotransmitters, and the activity of ion channels and adenylyl cyclase. This receptor subunit forms an active heterodimeric complex with GABA-B receptor subunit 1, neither of which is effective on its own. Allelic variants of this gene have been associated with nicotine dependence.
Immunogen	Purified recombinant fragment of human GABBR2 (AA: 319-483) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide.

Additional Information

Gene ID	9568
Other Names	Gamma-aminobutyric acid type B receptor subunit 2, GABA-B receptor 2, GABA-B-R2, GABA-BR2, GABABR2, Gb2, G-protein coupled receptor 51, HG20, GABBR2, GPR51, GPRC3B
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	GABBR2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GABBR2
Synonyms	GPR51, GPRC3B
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: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:24305054). Signaling inhibits adenylate cyclase, stimulates phospholipase A2, activates potassium channels, inactivates voltage-dependent calcium-channels and modulates inositol phospholipid hydrolysis (PubMed:10075644, PubMed:10773016, PubMed:10906333, PubMed:9872744). Plays a critical role in the fine-tuning of inhibitory synaptic transmission (PubMed:22660477, PubMed:9872744). 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:9872316, PubMed:9872744). Not only implicated in synaptic inhibition but also in hippocampal long-term potentiation, slow wave sleep, muscle relaxation and antinociception (Probable).
Cellular Location	Cell membrane; Multi-pass membrane protein. Postsynaptic cell membrane {ECO:0000250|UniProtKB:O88871}; Multi-pass membrane protein. Note=Coexpression of GABBR1 and GABBR2 is required for GABBR1 maturation and transport to the plasma membrane. In contrast, GABBR2 does not depend on GABBR1 for transport to the cell membrane
Tissue Location	Highly expressed in brain, especially in cerebral cortex, thalamus, hippocampus, frontal, occipital and temporal lobe, occipital pole and cerebellum, followed by corpus callosum, caudate nucleus, spinal cord, amygdala and medulla (PubMed:10087195, PubMed:10328880, PubMed:10727622, PubMed:9872744). Weakly expressed in heart, testis and skeletal muscle (PubMed:10087195, PubMed:10727622)

Background

Sperm mitochondria differ in morphology and subcellular localization from those of somatic cells. They are elongated, flattened, and arranged circumferentially to form a helical coiled sheath in the midpiece of the sperm flagellum. The protein encoded by this gene localizes to the capsule associated with the mitochondrial outer membranes and is thought to function in the organization and stabilization of the helical structure of the sperm's mitochondrial sheath. ;

References

1. J Biol Chem. 2007 Feb 9;282(6):4162-71. 2. Genomics. 1999 Mar 15;56(3):288-95.

Images

Figure 1: Western blot analysis using GABBR2 mAb against human GABBR2 (AA: 319-483) recombinant protein. (Expected MW is 44.9 kDa)

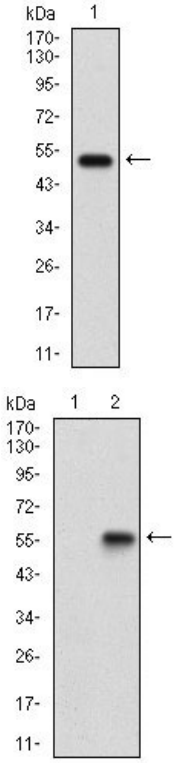


Figure 2: Western blot analysis using GABBR2 mAb against HEK293 (1) and GABBR2 (AA: 319-483)-hIgGFc transfected HEK293 (2) cell lysate.

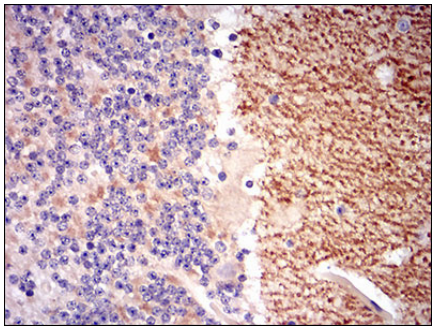


Figure 3: Immunohistochemical analysis of paraffin-embedded cerebellum tissues using GABBR2 mouse mAb with DAB staining.

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