

Anti-GABA A Receptor Alpha 1 Antibody

Catalog # ABO10892

Product Information

Application	WB, IHC-P
Primary Accession	P14867
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Gamma-aminobutyric acid receptor subunit alpha-1(GABRA1) detection. Tested with WB, IHC-P in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	2554
Other Names	Gamma-aminobutyric acid receptor subunit alpha-1, GABA(A) receptor subunit alpha-1, GABRA1
Calculated MW	51802
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Rat, Human, Mouse, By Heat Western blot, 0.1-0.5 µg/ml, Human, Rat, Mouse
Subcellular Localization	Cell junction, synapse, postsynaptic cell membrane; Multi-pass membrane protein. Cell membrane; Multi-pass membrane protein.
Source	Eukaryota
Protein Name	Gamma-aminobutyric acid receptor subunit alpha-1
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human GABA A Receptor alpha 1(440-456aa ATYLNREPQLKAPTPHQ), identical to the related rat and mouse sequences.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins

Storage	At -20 °C for one year. After r ° Constitution, at 4 °C for one month. It ° Can also be aliquotted and stored frozen at -20 °C for a longer time.Avoid repeated freezing and thawing.
Sequence Similarities	Belongs to the ligand-gated ion channel (TC 1.A.9) family. Gamma-aminobutyric acid receptor (TC 1.A.9.5) subfamily. GABRA1 sub-subfamily.

Protein Information

Name	GABRA1 (HGNC:4075)
Function	Alpha subunit of the heteropentameric ligand-gated chloride channel gated by Gamma-aminobutyric acid (GABA), a major inhibitory neurotransmitter in the brain (PubMed: 23909897 , PubMed: 25489750 , PubMed: 29950725 , PubMed: 30602789). GABA-gated chloride channels, also named GABA(A) receptors (GABAAR), consist of five subunits arranged around a central pore and contain GABA active binding site(s) located at the alpha and beta subunit interface(s) (PubMed: 29950725 , PubMed: 30602789). When activated by GABA, GABAARs selectively allow the flow of chloride anions across the cell membrane down their electrochemical gradient (PubMed: 23909897 , PubMed: 29950725 , PubMed: 30602789). Alpha-1/GABRA1-containing GABAARs are largely synaptic (By similarity). Chloride influx into the postsynaptic neuron following GABAAR opening decreases the neuron ability to generate a new action potential, thereby reducing nerve transmission (By similarity). GABAARs containing alpha-1 and beta-2 or -3 subunits exhibit synaptogenic activity; the gamma-2 subunit being necessary but not sufficient to induce rapid synaptic contacts formation (PubMed: 23909897 , PubMed: 25489750). GABAARs function also as histamine receptor where histamine binds at the interface of two neighboring beta subunits and potentiates GABA response (By similarity). GABAARs containing alpha, beta and epsilon subunits also permit spontaneous chloride channel activity while preserving the structural information required for GABA-gated openings (By similarity). Alpha-1-mediated plasticity in the orbitofrontal cortex regulates context-dependent action selection (By similarity). Together with rho subunits, may also control neuronal and glial GABAergic transmission in the cerebellum (By similarity).
Cellular Location	Postsynaptic cell membrane {ECO:0000250 UniProtKB:P08219}; Multi-pass membrane protein. Cell membrane; Multi-pass membrane protein. Cytoplasmic vesicle membrane {ECO:0000250 UniProtKB:P62813}; Multi-pass membrane protein. Note=Mainly located in GABAergic synapses in granule cells, and also in the extrasynaptic membrane at a lower concentration. {ECO:0000250 UniProtKB:P62813}

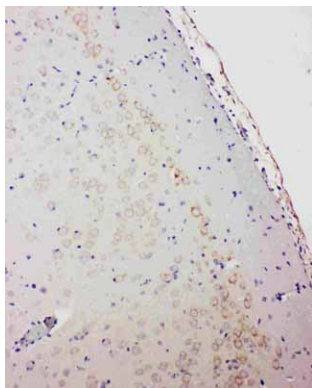
Background

GABRA1, Gamma-aminobutyric acid receptor subunit alpha-1, is a protein that in humans is encoded by the GABRA1 gene. The 1,055-bp GABRA1 clone contained an open reading frame and 260 nucleotides in the 5-prime noncoding region. The 351-amino acid sequence shows 97% homology with its bovine counterpart. GABA is the major inhibitory neurotransmitter in the mammalian brain where it acts at GABA-A receptors, which are ligand-gated chloride channels. Chloride conductance of these channels can be modulated by agents such as benzodiazepines that bind to the GABA-A receptor. At least 16 distinct subunits of GABA-A receptors have been identified.

Images



Anti-GABA A Receptor alpha 1 antibody, ABO10892,
Western blotting Lane 1: Rat Brain Tissue Lysate Lane 2:
Rat Brain Tissue Lysate



Anti-GABA A Receptor alpha 1 antibody, ABO10892,
IHC(P)IHC(P): Rat Brain Tissue

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