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Anti-GABA A Receptor Alpha 1 Antibody
Catalog # ABO10892

Specification

Anti-GABA A Receptor Alpha 1 Antibody - Product Information

Application	**WB, IHC**
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.

Anti-GABA A Receptor Alpha 1 Antibody - Additional Information

Gene ID 2554

Other Names
Gamma-aminobutyric acid receptor subunit alpha-1, GABA(A) receptor subunit alpha-1, GABRA1

Calculated MW
51802 MW KDa

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.

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.

Anti-GABA A Receptor Alpha 1 Antibody - 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}

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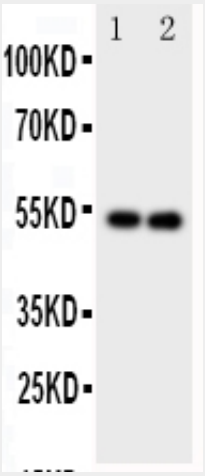
Anti-GABA A Receptor Alpha 1 Antibody - Protocols

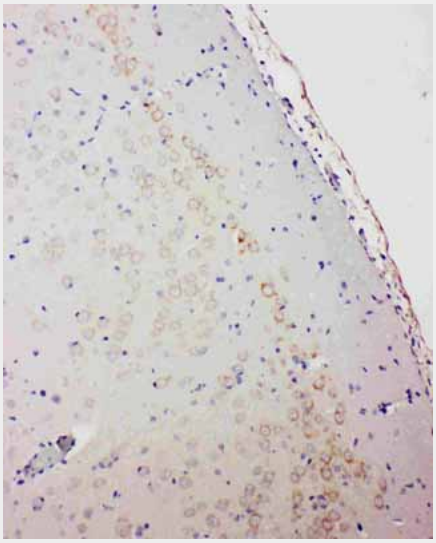
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-GABA A Receptor Alpha 1 Antibody - Images



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



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

Anti-GABA A Receptor Alpha 1 Antibody - 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.