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

GABRA1 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP21477b

Product Information

Application	WB, E
Primary Accession	P14867
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	polyclonal
Isotype	Rabbit IgG
Clone Names	RB52087
Calculated MW	51802

Additional Information

Gene ID	2554
Other Names	Gamma-aminobutyric acid receptor subunit alpha-1, GABA(A) receptor subunit alpha-1, GABRA1
Target/Specificity	This GABRA1 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 405-438 amino acids from the C-terminal region of human GABRA1.
Dilution	WB~~1:2000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	GABRA1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

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

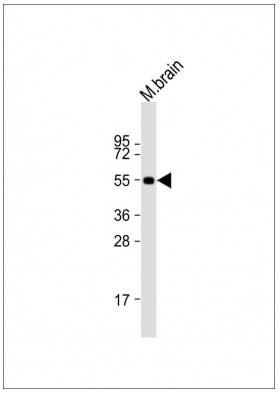
Component of the heteropentameric receptor for GABA, the major inhibitory neurotransmitter in the vertebrate brain. Functions also as histamine receptor and mediates cellular responses to histamine. Functions as receptor for diazepines and various anesthetics, such as pentobarbital; these are bound at a separate allosteric effector binding site. Functions as ligand- gated chloride channel (By similarity).

References

Schofield P.R.,et al.FEBS Lett. 244:361-364(1989).
Mural R.J.,et al.Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.
Garrett K.M.,et al.Biochem. Biophys. Res. Commun. 156:1039-1045(1988).
Lachance-Touchette P.,et al.Eur. J. Neurosci. 34:237-249(2011).
Carvill G.L.,et al.Neurology 82:1245-1253(2014).

Images

Anti-GABRA1 Antibody (C-term)at 1:2000 dilution + mouse brain lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution Predicted band size : 52 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



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