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GABRG2 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP10189c

Product Information

Application	WB, IHC-P, E
Primary Accession	P18507
Other Accession	P18508, P22723, P22300, NP_000807.2
Reactivity	Human, Mouse
Predicted	Bovine, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB23939
Calculated MW	55186
Antigen Region	198-224

Additional Information

Gene ID	2566
Other Names	Gamma-aminobutyric acid receptor subunit gamma-2, GABA(A) receptor subunit gamma-2, GABRG2
Target/Specificity	This GABRG2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 198-224 amino acids from the Central region of human GABRG2.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
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	GABRG2 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GABRG2 (HGNC:4087)
Function	Gamma subunit of the heteropentameric ligand-gated chloride channel gated by gamma-aminobutyric acid (GABA), a major inhibitory

	neurotransmitter in the brain (PubMed:14993607, PubMed:16412217, PubMed:23909897, PubMed:2538761, PubMed:25489750, PubMed:27864268, 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:14993607, PubMed:16412217, PubMed:2538761, PubMed:27864268, PubMed:29950725, PubMed:30602789). Gamma-2/GABRG2-containing GABAARs are found at both synaptic and extrasynaptic sites (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). Extrasynaptic gamma-2- containing receptors contribute to the tonic GABAergic inhibition (By similarity). GABAARs function also as histamine receptor where histamine binds at the interface of two neighboring beta subunits and potentiates GABA response in a gamma-2 subunit-controlled manner (By similarity).
Cellular Location	Postsynaptic cell membrane; Multi-pass membrane protein {ECO:0000269|PubMed:30602789, ECO:0007744|PDB:6I53}. Cell membrane; Multi-pass membrane protein {ECO:0000269|PubMed:30602789, ECO:0007744|PDB:6I53} Cell projection, dendrite {ECO:0000250|UniProtKB:P22723}. Cytoplasmic vesicle membrane {ECO:0000250|UniProtKB:P18508}

Background

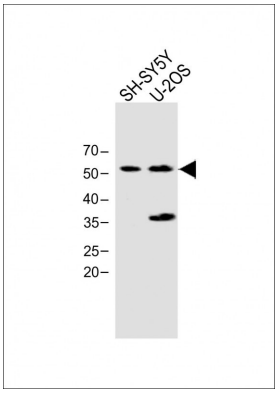
This gene encodes a gamma-aminobutyric acid (GABA) receptor. GABA is the major inhibitory neurotransmitter in the mammlian brain, where it acts at GABA-A receptors, which are ligand-gated chloride channels. GABA-A receptors are pentameric, consisting of proteins from several subunit classes: alpha, beta, gamma, delta and rho. Mutations in this gene have been associated with epilepsy and febrile seizures. Multiple transcript variants encoding different isoforms have been identified for this gene.

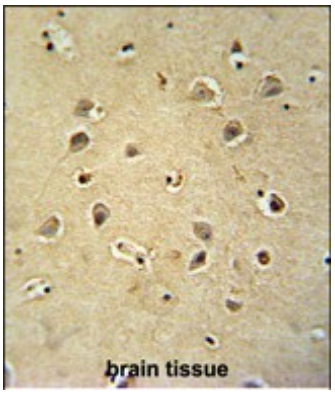
References

Green, E.K., et al. Am. J. Med. Genet. B Neuropsychiatr. Genet. 153B (7), 1347-1349 (2010) :
Jansen, L.A., et al. Epilepsia 51(8):1456-1467(2010)
Pinheiro, A.P., et al. Am. J. Med. Genet. B Neuropsychiatr. Genet. 153B (5), 1070-1080 (2010) :
Shi, X., et al. J. Hum. Genet. 55(6):375-378(2010)
Kumari, R., et al. Seizure 19(4):237-241(2010)

Images

All lanes: Anti-GABRG2 Antibody (Center) at 1:1000 dilution Lane 1: SH-SY5Y whole cell lysate Lane 2: U-2OS whole cell lysate Lysates/proteins at 20 µg per lane. Secondary: Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size: 55 KDa Blocking/Dilution buffer: 5% NFDM/TBST.





GABRG2 antibody (Center) (Cat. #AP10189c) immunohistochemistry analysis in formalin fixed and paraffin embedded human brain tissue followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the GABRG2 antibody (Center) for immunohistochemistry. Clinical relevance has not been evaluated.