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GABRD Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP9299c

Product Information

Application	WB, IHC-P, FC, E
Primary Accession	O14764
Reactivity	Human, Rat, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB23938
Calculated MW	50708
Antigen Region	331-358

Additional Information

Gene ID	2563
Other Names	Gamma-aminobutyric acid receptor subunit delta, GABA(A) receptor subunit delta, GABRD
Target/Specificity	This GABRD antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 331-358 amino acids from the Central region of human GABRD.
Dilution	WB~~1:2000 IHC-P~~1:100~500 FC~~1:10~50 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	GABRD Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GABRD (HGNC:4084)
Function	Delta subunit of the heteropentameric ligand-gated chloride channel gated by gamma-aminobutyric acid (GABA), a major inhibitory neurotransmitter in the brain (PubMed:35355020). 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:35355020). When activated by GABA, GABAARs selectively allow the flow of chloride anions across the cell membrane down their electrochemical gradient (PubMed:35355020). GABAARs containing delta/GABRD subunits are predominantly located in extrasynaptic or perisynaptic positions on hippocampus and cerebellar granule cells, and contribute to the tonic GABAergic inhibition (By similarity). GABAAR containing alpha-4-beta-3-delta subunits can simultaneously bind GABA and histamine where histamine binds at the interface of two neighboring beta subunits, which may be involved in the regulation of sleep and wakefulness (PubMed:35355020).
Cellular Location	Cell membrane {ECO:0000250|UniProtKB:P18506}; Multi-pass membrane protein

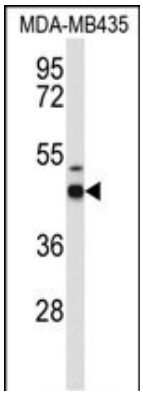
Background

GABRD 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. The GABA-A receptor is generally pentameric and there are five types of subunits: alpha, beta, gamma, delta, and rho. This protein encodes the delta subunit.

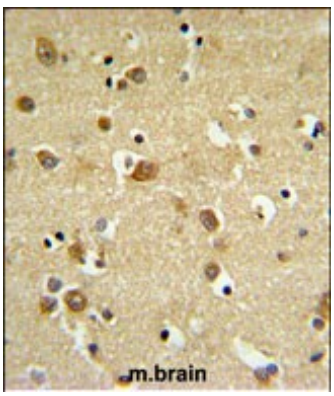
References

Gratacos,M., et.al., Am. J. Med. Genet. B Neuropsychiatr. Genet. 150B (6), 808-816 (2009)
Maldonado-Aviles,J.G., et.al., Am J Psychiatry 166 (4), 450-459 (2009)
Tabakoff,B., et.al., BMC Biol. 7, 70 (2009)

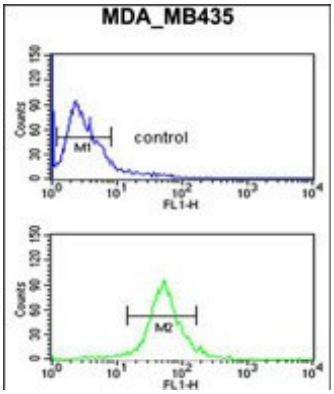
Images



Western blot analysis of GABRD Antibody (Center) (Cat. #AP9299c) in MDA-MB435 cell line lysates (35ug/lane). GABRD (arrow) was detected using the purified Pab.



GABRD Antibody (Center) (Cat. #AP9299c) IHC analysis in formalin fixed and paraffin embedded brain tissue followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the GABRD Antibody (Center) for immunohistochemistry. Clinical relevance has not been evaluated.



GABRD Antibody (Center) (Cat. #AP9299c) flow cytometric analysis of MDA-MB435 cells (bottom histogram) compared to a negative control cell (top histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.