

Anti-GABRA4 Antibody

Catalog # AP59561

Product Information

Application	WB, IHC, IF/IC
Primary Accession	P48169
Reactivity	Human, Mouse, Rat, Bovine, Mk
Host	Rabbit
Clonality	Polyclonal
Calculated MW	61623

Additional Information

Gene ID	2557
Other Names	Gamma-aminobutyric acid receptor subunit alpha-4; GABA(A) receptor subunit alpha-4
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human GABRA4. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000) IHC~~1:100~500 IF/IC~~N/A
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

Name	GABRA4 (HGNC:4078)
Function	Alpha 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 alpha-4 are predominantly extrasynaptic, contributing to tonic inhibition in dentate granule cells and thalamic relay neurons (By similarity). Extrasynaptic alpha-4-containing GABAARs control levels of excitability and network activity (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](#)).

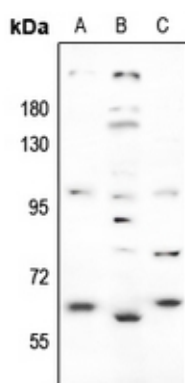
Cellular Location

Cell membrane {ECO:0000250 | UniProtKB:Q9D6F4}; Multi-pass membrane protein {ECO:0000269 | PubMed:35355020, ECO:0007744 | PDB:7QN5}. Postsynaptic cell membrane; Multi-pass membrane protein {ECO:0000269 | PubMed:35355020, ECO:0007744 | PDB:7QN5}

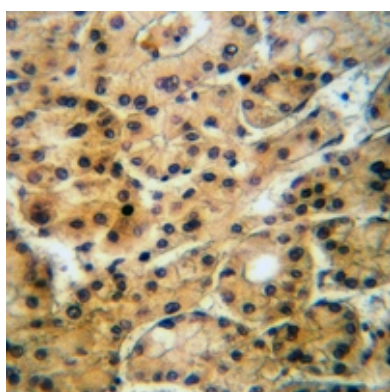
Tissue Location

Expressed in the brain. {ECO:0000250 | UniProtKB:Q9D6F4}

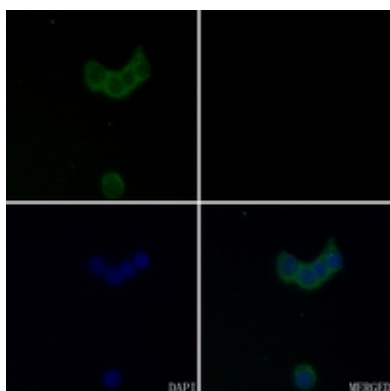
Images



Western blot analysis of GABRA4 expression in U87MG (A), EC9706 (B), H9C2 (C) whole cell lysates. (Predicted band size: 61 kD; Observed band size: 62 kD)



Immunohistochemical analysis of GABRA4 staining in human liver cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



Immunofluorescent analysis of GABRA4 staining in MCF7 cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a humidified chamber. Cells were washed with PBST and incubated with a AF488-conjugated secondary antibody (green) in PBS at room temperature in the dark. Phalloidin - AF594 was used to stain Actin filaments (red). DAPI was used to stain the cell nuclei (blue).

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