

Gamma-aminobutyric acid receptor subunit alpha-1 Antibody

Mouse Monoclonal Antibody [Clone GABRA1/14965]

Catalog No	Format	Size
2554-MSM1-P0	Purified Ab with BSA and Azide at 200ug/ml	20 ug
2554-MSM1-P1	Purified Ab with BSA and Azide at 200ug/ml	100 ug
2554-MSM1-P1ABX	Purified Ab WITHOUT BSA or Azide at 1.0mg/ml	100 ug

Applications	Tested Dillution	Note
Immunohistochemistry (IHC)	1-2ug/ml	30 min at RT. Staining of formalin-fixed tissues requires heating tissue sections in 10mM Tris with 1mM EDTA, pH 9.0, for 45 min at 95°C followed by cooling at RT for 20 minutes

Product Details

Clone	GABRA1/14965
Immunogen	Recombinant fragment (around aa 33-165) of human GABRA1 protein
Host	Mouse
Clonality	Monoclonal
Isotype / Light Chain	IgG2a
Mol. Weight of Antigen	51.8kDa
Cellular Localization	Cell membrane, Cytoplasmic vesicle membrane, Postsynaptic cell membrane
Species Reactivity	Human

*Optimal dilution for a specific application should be determined.

Product Images for Gamma-aminobutyric acid receptor subunit alpha-1 Antibody

Specificity & Comments

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).

Supplied As

200ug/ml of Ab purified from Bioreactor Concentrate by Protein G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available WITHOUT BSA & azide at 1.0mg/ml.

Storage and Stability

Antibody with azide - store at 2 to 8 °C. Antibody without azide - store at -20 to -80 °C. Antibody is stable for 24 months. Non-hazardous. No MSDS required.

Limitations and Warranty

This antibody is available for research use only and is not approved for use in diagnosis. There are no warranties, expressed or implied, which extend beyond this description. Company is not liable for any personal injury or economic loss resulting from this product.