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GPR158 Polyclonal Antibody

Catalog # AP70172

Product Information

Application	WB, IHC-P, IF
Primary Accession	Q5T848
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	135489

Additional Information

Gene ID	57512
Other Names	GPR158; KIAA1136; Probable G-protein coupled receptor 158
Dilution	WB~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. Immunofluorescence: 1/200 - 1/1000. ELISA: 1/5000. Not yet tested in other applications. IHC-P~~N/A IF~~1:50~200
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Storage Conditions	-20℃

Protein Information

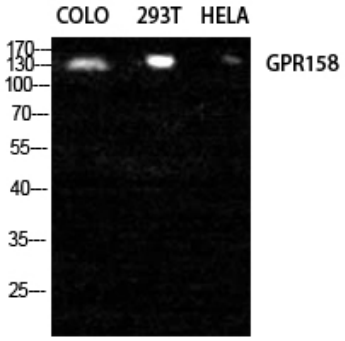
Name	GPR158 {ECO:0000303|Ref.1, ECO:0000312|HGNC:HGNC:23689}
Function	Metabotropic receptor for glycine that controls synapse formation and function in the brain (PubMed:36996198). Acts as an atypical G-protein coupled receptor that recruits and regulates the RGS7-GNB5 complex instead of activating G proteins (PubMed:31189666, PubMed:36996198). In absence of glycine ligand, promotes the GTPase activator activity of RGS7, increasing the GTPase activity of G protein alpha subunits, thereby driving them into their inactive GDP-bound form (PubMed:36996198). Glycine-binding changes the conformation of the intracellular surface, inhibiting the GTPase activator activity of the RGS7-GNB5 complex, promoting G protein alpha subunits into their active GTP-bound form and regulating cAMP levels (PubMed:36996198). Also able to bind taurine, a compound closely related to glycine, but with a two- fold lower affinity (PubMed:36996198). Glycine receptor-dependent regulation of cAMP controls key ion channels, kinases and neurotrophic factors involved in neuronal excitability and synaptic transmission (PubMed:36996198). Plays a pivotal role in regulating mood and cognition via its ability to regulate neuronal excitability in L2/L3 pyramidal neurons of the prefrontal cortex (By similarity). Also involved in spatial learning by regulating

	hippocampal CA1 neuronal excitability (By similarity). Acts as a synaptic organizer in the hippocampus, required for proper mossy fiber-CA3 neurocircuitry establishment, structure and function: induces presynaptic differentiation in contacting axons via its interaction with GPC4 (By similarity). In addition to glycine, may also act as a receptor for osteocalcin (BGLAP) hormone: osteocalcin-binding initiates a signaling response that prevents neuronal apoptosis in the hippocampus and regulates the synthesis of neurotransmitters (By similarity).
Cellular Location	Cell membrane; Multi-pass membrane protein. Postsynaptic cell membrane {ECO:0000250|UniProtKB:Q8C419}; Multi-pass membrane protein. Presynaptic cell membrane {ECO:0000250|UniProtKB:Q8C419}; Multi-pass membrane protein Nucleus Note=Mainly localizes to the postsynaptic membrane, with a small portion to the presynaptic membrane (By similarity). Trafficks between the nucleus and the cell membrane; it is unclear how a multi-pass membrane protein can traffick between the nucleus and the cell membrane (PubMed:23451275). {ECO:0000250|UniProtKB:Q8C419, ECO:0000269|PubMed:23451275}

Background

Orphan receptor.

Images



Western Blot analysis of COLO 293T HELA cells using GPR158 Polyclonal Antibody diluted at 1：2000