10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

GPR56 Polyclonal Antibody

Catalog # AP70209

Product Information

Application	WB, IF
Primary Accession	Q9Y653
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	77738

Additional Information

Gene ID	9289
Other Names	GPR56; TM7LN4; TM7XN1; G-protein coupled receptor 56; Protein TM7XN1
Dilution	WB~~Western Blot: 1/500 - 1/2000. Immunofluorescence: 1/200 - 1/1000. ELISA: 1/20000. Not yet tested in other applications. 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

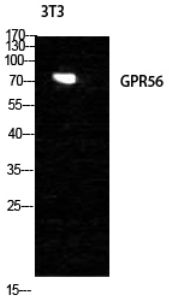
Name	ADGRG1 {ECO:0000303|PubMed:26710850, ECO:0000312|HGNC:HGNC:4512}
Function	Adhesion G-protein coupled receptor (aGPCR) for steroid hormone 17alpha-hydroxypregnenolone (17-OH), which is involved in cell adhesion and cell-cell interactions (PubMed:39389061). Ligand binding causes a conformation change that triggers signaling via guanine nucleotide-binding proteins (G proteins) and modulates the activity of downstream effectors, such as RhoA pathway (PubMed:28874577, PubMed:35418682, PubMed:39389061). ADGRG1 is coupled to G(12) and/or G(13) G proteins (GNA12 and GNA13, respectively) and mediates the activation Rho small GTPases (PubMed:22238662, PubMed:28424266, PubMed:35418682, PubMed:39389061). Acts as a potent suppressor of ferroptosis: binding to 17-OH-binding initiates signaling that down- regulates CD36 and alleviates ferroptosis-induced liver injury (By similarity). Ligand-binding also induces cell adhesion activity via association with proteins such as collagen III/COL3A1 and TGM2 (By similarity). Mediates cell matrix adhesion in developing neurons and hematopoietic stem cells (By similarity). Involved in cortical development, specifically in maintenance of the pial basement membrane integrity and in cortical lamination: association with COL3A1 in the developing

	brain inhibits neuronal migration via activation of the RhoA pathway (PubMed:24531968). Together with TGM2, acts as a regulator of myelination and myelin repair in oligodendrocyte precursor cells (By similarity). Acts as a hemostatic sensor of shear force: G protein- coupled receptor signaling is activated in response to shear force in platelets, promoting G(13) G protein signaling, and platelet shape change and aggregation in a COL3A1-dependent manner (PubMed:33097663). Acts as an inhibitor of VEGFA production thereby inhibiting angiogenesis through a signaling pathway mediated by PRKCA (PubMed:16757564, PubMed:19572147, PubMed:21724588). Plays a role in the maintenance of hematopoietic stem cells in bone marrow niche (By similarity). Plays an essential role in testis development (By similarity).
Cellular Location	Cell membrane; Multi-pass membrane protein [Adhesion G-protein coupled receptor G1, C- terminal fragment]: Membrane raft Note=Interaction with its ligand COL3A1 leads to the release of ADGRG1 NT from the membrane and triggers the association of ADGRG1 CT with lipid rafts.
Tissue Location	Widely distributed with highest levels found in thyroid gland, brain and heart. Expressed in a great number of tumor cells. Expression is down-regulated in different tumors from highly metastatic cells.

Background

Receptor involved in cell adhesion and probably in cell- cell interactions. Mediates cell matrix adhesion in developing neurons and hematopoietic stem cells. Receptor for collagen III/COL3A1 in the developing brain and involved in regulation of cortical development, specifically in maintenance of the pial basement membrane integrity and in cortical lamination (By similarity). Binding to the COL3A1 ligand inhibits neuronal migration and activates the RhoA pathway by coupling to GNA13 and possibly GNA12 (PubMed:22238662). Plays a role in the maintenance of hematopoietic stem cells and/or leukemia stem cells in bone marrow niche (By similarity). Plays a critical role in cancer progression by inhibiting VEGFA production threreby inhibiting angiogenesis through a signaling pathway mediated by PRKCA (PubMed:16757564, PubMed:21724588). Plays an essential role in testis development (By similarity).

Images



Western Blot analysis of NIH-3T3 cells using GPR56 Polyclonal Antibody diluted at 1：1000