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GPR161 Rabbit pAb

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Catalog # AP55973

Product Information

Application	WB
Primary Accession	Q8N6U8
Reactivity	Human
Predicted	Rat, Pig, Dog, Mouse, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	58559
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human GPR161
Epitope Specificity	121-220/529
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cell projection, cilium membrane; Multi-pass membrane protein (By similarity). Cell membrane; Multi-pass membrane protein (By similarity). Note=Mainly localizes to primary cilium in a TULP3 and IFT-A complex-dependent manner. In presence of SHH, it is removed from primary cilia and is internalized into recycling endosomes and is apparently not degraded (By similarity).
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	G protein-coupled receptors (GPRs), also known as seven transmembrane receptors, heptahelical receptors or 7TM receptors, comprise a superfamily of proteins that play a role in many different stimulus-response pathways. G-protein coupled receptors translate extracellular signals into intracellular signals (G-protein activation) and they respond to a variety of signaling molecules, such as hormones and neurotransmitters. GPR161 (G protein-coupled receptor 161), also known as RE2, is a 529 amino acid protein that belongs to the G-protein coupled receptor family. Localized to the cell membrane, GPR161 is a multi-pass membrane protein that functions as an orphan receptor, relaying extracellular signals to the intracellular environment. Two isoforms of GPR161 exist due to alternative splicing events.

Additional Information

Gene ID	23432
Other Names	G-protein coupled receptor 161, G-protein coupled receptor RE2, GPR161
Dilution	WB=1:500-2000

Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

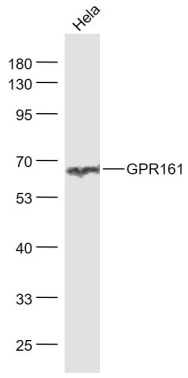
Name	GPR161 {ECO:0000303|PubMed:31609649, ECO:0000312|HGNC:HGNC:23694}
Function	G protein-coupled receptor that acts as a key inhibitor of the smoothened signaling pathway in primary cilia (PubMed:38326651). Inhibits the smoothened signaling pathway in absence of hedgehog (DHH, IHH or SHH) by promoting formation of the transcription repressor form of GLI2 and GLI3 transcription factors (PubMed:38326651). GPR161 activation triggers signaling via guanine nucleotide-binding protein G(s)/GNAS, mediating activation of adenylate cyclase activity and production of cAMP (PubMed:38326651). Increased cAMP levels activate PKA, promoting PKA-dependent processing of GLI2 and GLI3 transcription factors, leading to formation of transcription repressor GLI2R and GLI3R, which repress expression of target genes (PubMed:38326651). GPR161 also activates PKA by acting as a PKA-anchoring protein, which directly associates with type I PKA regulatory subunits (PRKAR1A and/or PRKAR1B), recruiting PKA followed by PKA-dependent processing of GLI2 and GLI3 transcription factors (PubMed:38326651). In presence of hedgehog, GPR161 is removed from primary cilia by smoothened (SMO), preventing its activity and allowing activation of the smoothened signaling (By similarity). In contrast to the majority of G protein- coupled receptors, it is not activated by a ligand and it either acts as a constitutively active receptor or as a mechanosensitive receptor (PubMed:38326651). Involved in regulation of the smoothened signaling pathway during early neural tube development, forelimb formation, skeletal development, embryonic cerebellar development and forebrain development (By similarity). Involved in the saltatory migration of neurons during brain development by acting as a mechanosensitive receptor that senses mechanical forces generated by fluid shear stress (By similarity).
Cellular Location	Cell projection, cilium membrane; Multi-pass membrane protein. Cell membrane; Multi-pass membrane protein. Note=Recruited to primary cilium in a TULP3 and IFT-A complex-dependent manner (PubMed:20889716). In presence of smoothened (SMO), it is removed from primary cilia and is internalized into recycling endosomes and is apparently not degraded (PubMed:40384633). Export from primary cilia is mediated via a beta-arrestin, BBSome and IFT-B complex-dependent mechanism (PubMed:40384633).

Background

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Images

Sample:
Hela (Human)cell Lysate at 30 ug
Primary: Anti- GPR161 (AP55973) at 1/1000 dilution
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution



Predicted band size: 59 kD
Observed band size: 65 kD

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