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

GPR161 antibody - N-terminal region

Rabbit Polyclonal Antibody
Catalog # AI12005

Product Information

Application	WB, IHC
Primary Accession	Q8N6U8
Other Accession	NM_153832, NP_722561
Reactivity	Human, Mouse, Rat, Rabbit, Pig, Dog, Horse
Predicted	Human, Mouse, Rabbit, Pig, Dog, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	58559

Additional Information

Gene ID	23432
Alias Symbol	FLJ33952, RE2
Other Names	G-protein coupled receptor 161, G-protein coupled receptor RE2, GPR161
Format	Liquid. Purified antibody supplied in 1x PBS buffer with 0.09% (w/v) sodium azide and 2% sucrose.
Reconstitution & Storage	Add 100 ul of distilled water. Final anti-GPR161 antibody concentration is 1 mg/ml in PBS buffer with 2% sucrose. For longer periods of storage, store at 20°C. Avoid repeat freeze-thaw cycles.
Precautions	GPR161 antibody - N-terminal region is for research use only and not for use in diagnostic or therapeutic procedures.

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).

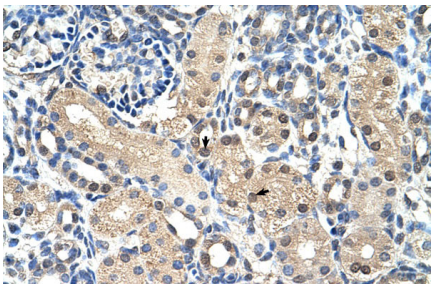
Cellular Location

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).

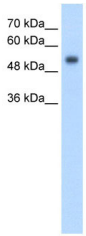
References

Small,K.M., FEBS Lett. 516 (1-3), 253-256 (2002)Reconstitution and Storage:For short term use, store at 2-8C up to 1 week. For long term storage, store at -20C in small aliquots to prevent freeze-thaw cycles.

Images



Rabbit Anti-GPR161 Antibody
Paraffin Embedded Tissue: Human Kidney
Cellular Data: Epithelial cells of renal tubule
Antibody Concentration: 4.0-8.0 µg/ml
Magnification: 400X



WB Suggested Anti-GPR161 Antibody Titration: 2.5µg/ml
Positive Control: HepG2 cell lysate

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