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LRP6 Antibody (C-term T1546)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP6158a

Product Information

Application	WB, IHC-P, E
Primary Accession	O75581
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	180429
Antigen Region	1531-1560

Additional Information

Gene ID	4040
Other Names	Low-density lipoprotein receptor-related protein 6, LRP-6, LRP6
Target/Specificity	This LRP6 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1531-1560 amino acids from the C-terminal region of human LRP6.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	LRP6 Antibody (C-term T1546) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	LRP6
Function	Component of the Wnt-Fzd-LRP5-LRP6 complex that triggers beta-catenin signaling through inducing aggregation of receptor-ligand complexes into ribosome-sized signalosomes (PubMed:11357136, PubMed:11448771, PubMed:15778503, PubMed:16341017, PubMed:16513652, PubMed:17326769, PubMed:17400545, PubMed:19107203,

PubMed:19293931, PubMed:19801552, PubMed:28341812, PubMed:34896607). Cell-surface coreceptor of Wnt/beta-catenin signaling, which plays a pivotal role in various processes including retinal angiogenesis and bone formation (PubMed:11357136, PubMed:11448771, PubMed:15778503, PubMed:16341017, PubMed:16513652, PubMed:17326769, PubMed:17400545, PubMed:19107203, PubMed:19293931, PubMed:19801552, PubMed:28341812, PubMed:34896607). The Wnt-induced Fzd/LRP6 coreceptor complex recruits DVL1 polymers to the plasma membrane which, in turn, recruits the AXIN1/GSK3B-complex to the cell surface promoting the formation of signalosomes and inhibiting AXIN1/GSK3-mediated phosphorylation and destruction of beta-catenin (PubMed:16513652). Required for posterior patterning of the epiblast during gastrulation (By similarity).

Cellular Location

Cell membrane; Single-pass type I membrane protein. Endoplasmic reticulum. Membrane raft. Note=On Wnt signaling, undergoes a cycle of caveolin- or clathrin-mediated endocytosis and plasma membrane location. Released from the endoplasmic reticulum on palmitoylation Mono-ubiquitination retains it in the endoplasmic reticulum in the absence of palmitoylation. On Wnt signaling, phosphorylated, aggregates and colocalizes with AXIN1 and GSK3B at the plasma membrane in LRP6- signalosomes (By similarity). Chaperoned to the plasma membrane by HSP90B1 and MESD (PubMed:23572575). {ECO:0000250|UniProtKB:O88572, ECO:0000269|PubMed:23572575}

Tissue Location

Widely coexpressed with LRP5 during embryogenesis and in adult tissues

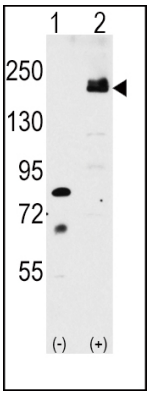
Background

LRP6 is essential for the Wnt/beta catenin signaling pathway, probably by acting as a coreceptor together with Frizzled for Wnt. It is a specific, high-affinity receptor for DKK1 and DKK2, but not DKK3. The interaction with DKK1 blocks LRP6-mediated Wnt/beta catenin signaling via LRP6 removal via Kremen proteins-mediated endocytosis.

References

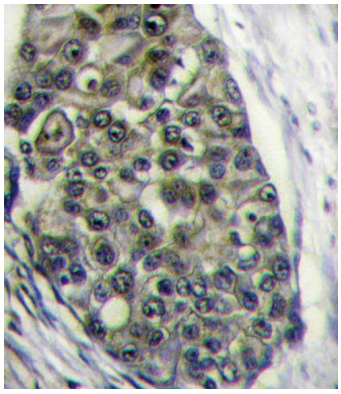
Liu, G., et al., Mol. Cell. Biol. 23(16):5825-5835 (2003). Tamai, K., et al., Nature 407(6803):530-535 (2000). Brown, S.D., et al., Biochem. Biophys. Res. Commun. 248(3):879-888 (1998).

Images



Western blot analysis of LRP6 (arrow) using rabbit polyclonal LRP6 Antibody (C-term T1546) (Cat# AP6158a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the LRP6 gene (Lane 2) (Origene Technologies).

Formalin-fixed and paraffin-embedded human breast carcinoma tissue reacted with LRP6 Antibody (C-term



T1546)(Cat.#AP6158a), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

Citations

- LRP6 protein regulates low density lipoprotein (LDL) receptor-mediated LDL uptake.
- LRP6 overexpression defines a class of breast cancer subtype and is a target for therapy.
- Wild-type LRP6 inhibits, whereas atherosclerosis-linked LRP6R611C increases PDGF-dependent vascular smooth muscle cell proliferation.

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