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

LRP5 Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP6157a

Specification

LRP5 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession	O75197
Other Accession	Q9UP66

LRP5 Antibody (C-term) Blocking Peptide - Additional Information

Gene ID 4041

Other Names
Low-density lipoprotein receptor-related protein 5, LRP-5, LRP5, LR3, LRP7

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP6157a was selected from the C-term region of human LRP5 . A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

LRP5 Antibody (C-term) Blocking Peptide - Protein Information

Name LRP5 {ECO:0000303|PubMed:24706814, ECO:0000312|HGNC:HGNC:6697}

Function
Acts as a coreceptor with members of the frizzled family of seven-transmembrane spanning receptors to transduce signal by Wnt proteins (PubMed:11336703, PubMed:11448771, PubMed:11719191, PubMed:15778503, PubMed:15908424, PubMed:16252235). Activates the canonical Wnt signaling pathway that controls cell fate determination and self-renewal during embryonic development and adult tissue regeneration (PubMed:11336703, PubMed:<a

href="http://www.uniprot.org/citations/11719191" target="_blank">11719191). In particular, may play an important role in the development of the posterior patterning of the epiblast during gastrulation (By similarity). During bone development, regulates osteoblast proliferation and differentiation thus determining bone mass (PubMed:11719191). Mechanistically, the formation of the signaling complex between Wnt ligand, frizzled receptor and LRP5 coreceptor promotes the recruitment of AXIN1 to LRP5, stabilizing beta-catenin/CTNNB1 and activating TCF/LEF-mediated transcriptional programs (PubMed:11336703, PubMed:14731402, PubMed:24706814, PubMed:25920554). Acts as a coreceptor for non-Wnt proteins, such as norrin/NDP. Binding of norrin/NDP to frizzled 4/FZD4-LRP5 receptor complex triggers beta-catenin/CTNNB1-dependent signaling known to be required for retinal vascular development (PubMed:16252235, PubMed:27228167). Plays a role in controlling postnatal vascular regression in retina via macrophage-induced endothelial cell apoptosis (By similarity).

Cellular Location
Membrane {ECO:0000250|UniProtKB:Q91VN0}; Single- pass type I membrane protein {ECO:0000250|UniProtKB:Q91VN0} Endoplasmic reticulum. Note=Chaperoned to the plasma membrane by MESD. {ECO:0000250|UniProtKB:Q91VN0}

Tissue Location
Widely expressed, with the highest level of expression in the liver and in aorta.

LRP5 Antibody (C-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

LRP5 Antibody (C-term) Blocking Peptide - Images

LRP5 Antibody (C-term) Blocking Peptide - Background

Low density lipoprotein (LDL) receptor-related protein (LRP), a member of the LDL receptor family, binds multiple classes of ligands and has been implicated in a broad range of normal and disease processes involving lipid metabolism, protease clearance, and cell migration. Structurally, members of the LDLR family share homology within their extracellular domains, which are highlighted by the presence of clusters of ligand-binding repeats. LRP is a large endocytic receptor that participates in several biological pathways and plays prominent roles in lipoprotein metabolism and in the catabolism of proteinases involved in coagulation and fibrinolysis. LRP also mediates the cellular entry of certain viruses and toxins and facilitates the activation of various lysosomal enzymes. All LRPs are expressed in the central nervous system and, for most receptors, animal models have shown that they are indispensable for successful neurodevelopment. The mechanisms by which they regulate the formation of the nervous system are varied and include the transduction of extracellular signals and the modulation of intracellular signal propagation, as well as cargo transport, the function most commonly attributed to this gene family.

LRP5 Antibody (C-term) Blocking Peptide - References

Grimsley PG, et al. Trends Cardiovasc Med. 1998:363Strickland DK & Ranganathan S. J Thromb Haemost. 2003:1663May P and Herz J. Traffic. 2003:291