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

LRP5 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1686a

Product Information

Application	WB, FC, E
Primary Accession	O75197
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	2B11
Isotype	IgG1
Calculated MW	179145
Description	This gene encodes a transmembrane low-density lipoprotein receptor that binds and internalizes ligands in the process of receptor-mediated endocytosis. This protein also acts as a co-receptor with Frizzled protein family members for transducing signals by Wnt proteins and was originally cloned on the basis of its association with type 1 diabetes mellitus in humans. This protein plays a key role in skeletal homeostasis and many bone density related diseases are caused by mutations in this gene. Mutations in this gene also cause familial exudative vitreoretinopathy.
Immunogen	Purified recombinant fragment of human LRP5 expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide

Additional Information

Gene ID	4041
Other Names	Low-density lipoprotein receptor-related protein 5, LRP-5, LRP5, LR3, LRP7
Dilution	WB~~1/500 - 1/2000 FC~~1/200 - 1/400 E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	LRP5 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

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: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.

References

1. Bone. 2010 Apr;46(4):940-5. 2. Endocr J. 2009;56(4):625-31.

Images

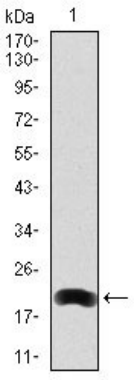
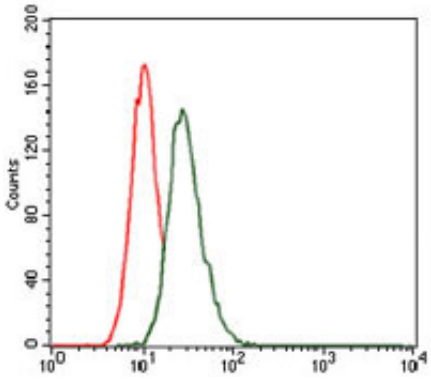


Figure 1: Western blot analysis using LRP5 mAb against human LRP5 (AA: 1422-1615) recombinant protein. (Expected MW is 20.8 kDa)

Figure 2: Flow cytometric analysis of HeLa cells using LRP5 mouse mAb (green) and negative control (red).



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