




Product datasheet

Anti-LRP6 antibody ab24386

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Overview

| | |
|----------------------------|---|
| Product name | Anti-LRP6 antibody |
| Description | Goat polyclonal to LRP6 |
| Host species | Goat |
| Tested applications | Suitable for: IHC-P |
| Species reactivity | Reacts with: Human Predicted to work with: Mouse, Rat, Chicken, Dog, Chimpanzee  |
| Immunogen | Synthetic peptide: CMTSVATAKGYTSDL , corresponding to amino acids 1546-1560 of Human LRP6  Run BLAST with  Run BLAST with |
| Positive control | IHC-P: Human kidney tissue. |
| General notes | <p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As</p> |

Properties

| | |
|-----------------------------|---|
| Form | Liquid |
| Storage instructions | Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles. |
| Storage buffer | pH: 7.30 Preservative: 0.02% Sodium azide Constituents: Tris buffered saline, 0.5% BSA |
| Purity | Immunogen affinity purified |
| Purification notes | Purified from goat serum by ammonium sulphate precipitation followed by antigen affinity chromatography using the immunizing peptide. |
| Clonality | Polyclonal |

Isotype

IgG

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab24386 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

| Application | Abreviews | Notes |
|-------------|-----------|--|
| IHC-P | | Use a concentration of 4 - 6 µg/ml. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. |

Target

Function

Component of the Wnt-Fzd-LRP5-LRP6 complex that triggers beta-catenin signaling through inducing aggregation of receptor-ligand complexes into ribosome-sized signalsomes. Cell-surface coreceptor of Wnt/beta-catenin signaling, which plays a pivotal role in bone formation. 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 signalsomes and inhibiting AXIN1/GSK3-mediated phosphorylation and destruction of beta-catenin. Required for posterior patterning of the epiblast during gastrulation.

Tissue specificity

Widely co-expressed with LRP5 during embryogenesis and in adult tissues.

Involvement in disease

Defects in LRP6 are the cause of autosomal dominant coronary artery disease type 2 (ADCAD2) [MIM:610947].

Sequence similarities

Belongs to the LDLR family.
Contains 4 EGF-like domains.
Contains 3 LDL-receptor class A domains.
Contains 20 LDL-receptor class B repeats.

Domain

The YWTD-EGF-like domains 1 and 2 are required for the interaction with Wnt-frizzled complex. The YWTD-EGF-like domains 3 and 4 are required for the interaction with DKK1. The PPPSP motifs play a central role in signal transduction by being phosphorylated, leading to activate the Wnt signaling pathway.

Post-translational modifications

Dual phosphorylation of cytoplasmic PPPSP motifs sequentially by GSK3 and CK1 is required for AXIN1-binding, and subsequent stabilization and activation of beta-catenin via preventing GSK3-mediated phosphorylation of beta-catenin. Phosphorylated, in vitro, by GRK5/6 within and outside the PPPSP motifs. Phosphorylation at Ser-1490 by CDK14 during G2/M phase leads to regulation of the Wnt signaling pathway during the cell cycle. Phosphorylation by GSK3B is induced by RPSO1 binding and inhibited by DKK1. Phosphorylated, in vitro, by casein kinase I on Thr-1479.

Undergoes gamma-secretase-dependent regulated intramembrane proteolysis (RIP). The extracellular domain is first released by shedding, and then, through the action of gamma-secretase, the intracellular domain (ICD) is released into the cytoplasm where it is free to bind to GSK3B and to activate canonical Wnt signaling.

Palmitoylation on the two sites near the transmembrane domain leads to release of LRP6 from the endoplasmic reticulum.

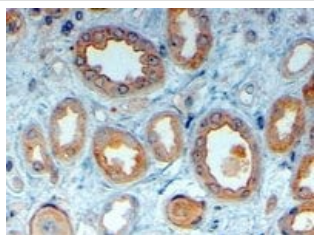
Mono-ubiquitinated which retains LRP6 in the endoplasmic reticulum.

N-glycosylation is required for cell surface location.

Cellular localization

Membrane. Endoplasmic reticulum. 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-signalsomes. Chaperoned to the plasma membrane by MESD.

Images



ab24386 staining LRP6 in Human Kidney at 4µg/ml by Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections). Sections were subjected to steamed antigen retrieval with citrate buffer pH 6.0, and antibody was visualised with HRP-staining.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-LRP6 antibody (ab24386)

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