

p-LRP1 (Tyr 4507): sc-33049

BACKGROUND

Members of the LDL receptor gene family, including LDLR (low density lipoprotein receptor), LRP5 (low density lipoprotein related proteins), megalin (also designated GP330), VLDLR (very low density lipoprotein receptor) and ApoER2, mediate the endocytosis of extracellular ligands. VLDLR and ApoER2 mediate the interaction of extracellular Reelin with cytosolic mDab1 (mammalian disabled protein), which activates a tyrosine kinase and regulates the migration of neurons along the radial glial fiber network. Mutations in LDLR cause the autosomal dominant disease familial hyper-cholesterolemia (FH), which promotes premature coronary atherosclerosis. LRP1 and megalin are implicated in Alzheimer's disease, while LRP6 mediates Wnt/ β -catenin signaling to control various developmental processes. Cubulin binds to megalin to mediate the uptake of specific ligands, including vitamin B₁₂. LRP5 affects bone mass accrual during growth, and mutations in LRP5 cause the autosomal recessive disorder osteoporosis-pseudoglioma syndrome (OPPG). LRP1 phosphorylated on tyrosine is specifically associated with the cellular docking protein Shc, leading to the regulation of ligand internalization.

REFERENCES

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2. Trommsdorff, M., et al. 1999. Reeler/disabled-like disruption of neuronal migration in knockout mice lacking the VLDL receptor and ApoE receptor 2. *Cell* 97: 689-701.
3. Mikhailenko, I., et al. 1999. Functional domains of the very low density lipoprotein receptor: molecular analysis of ligand binding and acid-dependent ligand dissociation mechanisms. *J. Cell Sci.* 112: 3269-3281.
4. Lambert, J.C., et al. 1999. Is the LDL receptor-related protein involved in Alzheimer's disease? *Neurogenetics* 2: 109-113.
5. Neels, J.G., et al. 1999. The second and fourth cluster of class A cysteine-rich repeats of the low density lipoprotein receptor-related protein share ligand-binding properties. *J. Biol. Chem.* 274: 31305-31311.
6. Bacskai, B.J., et al. 2000. The endocytic receptor protein LRP also mediates neuronal calcium signaling via N-methyl-D-aspartate receptors. *Proc. Natl. Acad. Sci. USA* 97: 11551-11556.
7. Kang, D.E., et al. 2000. Modulation of β -Amyloid protein clearance and Alzheimer's disease susceptibility by the LDL receptor-related protein pathway. *J. Clin. Invest.* 106: 1159-1166.
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CHROMOSOMAL LOCATION

Genetic locus: LRP1 (human) mapping to 12q13.3; Lrp1 (mouse) mapping to 10 D3.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

SOURCE

p-LRP1 (Tyr 4507) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Tyr 4507 LRP1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-33049 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-LRP1 (Tyr 4507) is recommended for detection of Tyr 4507 phosphorylated LRP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-LRP1 (Tyr 4507) is also recommended for detection of correspondingly phosphorylated LRP1 in additional species, including equine, canine, porcine and avian.

Suitable for use as control antibody for LRP1 siRNA (h): sc-40101, LRP1 siRNA (m): sc-40102, LRP1 shRNA Plasmid (h): sc-40101-SH, LRP1 shRNA Plasmid (m): sc-40102-SH, LRP1 shRNA (h) Lentiviral Particles: sc-40101-V and LRP1 shRNA (m) Lentiviral Particles: sc-40102-V.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.