

LRP6 (E-20): sc-17982

BACKGROUND

Members of the LDL receptor gene family, including LDLR (low density lipoprotein receptor), LRP6 (low density lipoprotein related proteins), megalin (also designated GP330), VLDLR (very low density lipoprotein receptor) and ApoER2, are characterized by a cluster of cysteine-rich class A repeats, epidermal growth factor (EGF)-like repeats, YWTD repeats and an O-linked sugar domain. LRP1, also designated α -2-macroglobulin receptor, is an endo-cytic receptor that mediates the uptake of at least 15 ligands, including α -2-macroglobulin and ApoE. LRP1, which is expressed in brain, liver and lung, is also implicated in Alzheimer's disease (AD), as the human LRP1 gene localizes to a potential AD locus on chromosome 12. The human LRP6 gene localizes to chromosome 12p13.2 and encodes a protein with a unique pattern of four epidermal growth factor (EGF) and three LDLR repeats in the extracellular domain. LRP6 mediates Wnt/ β -catenin signaling, which controls various developmental processes, including patterning of the body axis, central nervous system and limbs, and regulation of organogenesis.

REFERENCES

1. Brown, S.D., et al. 1998. Isolation and characterization of LRP6, a novel member of the low density lipoprotein receptor gene family. *Biochem. Biophys. Res. Commun.* 248: 879-888.
2. Vash, B., et al. 1998. Three complement-type repeats of the low-density lipoprotein receptor-related protein define a common binding site for RAP, PAI-1, and lactoferrin. *Blood* 92: 3277-3285.
3. 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.
4. 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.
5. Lambert, J.C., et al. 1999. Is the LDL receptor-related protein involved in Alzheimer's disease? *Neurogenetics* 2: 109-113.
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.

CHROMOSOMAL LOCATION

Genetic locus: LRP6 (human) mapping to 12p13.2; Lrp6 (mouse) mapping to 6 G1.

SOURCE

LRP6 (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of LRP6 of human origin.

STORAGE

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

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-17982 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

LRP6 (E-20) is recommended for detection of LRP6 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).

LRP6 (E-20) is also recommended for detection of LRP6 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for LRP6 siRNA (h): sc-37233, LRP6 siRNA (m): sc-37234, LRP6 shRNA Plasmid (h): sc-37233-SH, LRP6 shRNA Plasmid (m): sc-37234-SH, LRP6 shRNA (h) Lentiviral Particles: sc-37233-V and LRP6 shRNA (m) Lentiviral Particles: sc-37234-V.

Molecular Weight of LRP6: 183 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Faverman, L., et al. 2008. Extracellular transglutaminase 2 activates β -catenin signaling in calcifying vascular smooth muscle cells. *FEBS Lett.* 582: 1552-1557.

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.