

# LRP1 (A-18): sc-16168

## BACKGROUND

Members of the LDL receptor gene family, including LDLR (low density lipoprotein receptor), LRP1 (low density lipoprotein related protein), 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  $\alpha$ -2-Macroglobulin receptor, is an endocytic receptor that mediates the uptake of at least 15 ligands, including  $\alpha$ -2-Macroglobulin and apoE. LRP1 is cleaved into a membrane subunit and an extracellular subunit, which remain non-covalently associated. Proper folding and trafficking of LRP is facilitated by the receptor-associated protein (RAP), a molecular chaperone. The uptake of all known ligands through LRP1 can be blocked by RAP, which induces a conformational change in the receptor that renders it unable to bind ligands. LRP1, which is expressed in brain, liver and lung, is also implicated in Alzheimer's disease (AD), as the human LRP gene localizes to a potential AD locus on chromosome 12.

## REFERENCES

1. 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.
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.

## CHROMOSOMAL LOCATION

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

## SOURCE

LRP1 (A-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of LRP1 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.

## RESEARCH USE

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

## PRODUCT

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

Blocking peptide available for competition studies, sc-16168 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

LRP1 (A-18) is recommended for detection of 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).

LRP1 (A-18) is also recommended for detection of LRP1 in additional species, including equine, canine and porcine.

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.

Molecular Weight of LRP1: 85/515/600 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

## 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. Bilodeau, N., et al. 2010. Proteomic analysis of Src family kinases signaling complexes in Golgi/endosomal fractions using a site-selective anti-phosphotyrosine antibody: identification of LRP1-insulin receptor complexes. *J. Proteome Res.* 9: 708-717.
2. Steuble, M., et al. 2010. Molecular characterization of a trafficking organelle: dissecting the axonal paths of calyntenin-1 transport vesicles. *Proteomics* 10: 3775-3788.



Try **LRP1 (8B8): sc-57352**, our highly recommended monoclonal alternative to LRP1 (A-18).