

# LRP1B (K-20): sc-49229

## 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. LRP1B is a member of the LRP subfamily that regulates the endocytic trafficking of the transmembrane protein  $\beta$ -amyloid precursor protein (APP). Proteolytic processing of APP produces amyloid- $\beta$  peptide (A $\beta$ ), a molecule that is involved in the pathogenesis of Alzheimer's disease. LRP1B also regulates the catabolism of the platelet derived growth factor (PDGF)  $\beta$  receptor, influencing the migration of smooth muscle cells, thereby implicating LRP1B in the development of atherosclerosis, a disease that affects the arterial blood vessel. LRP1B is also an important factor in the tumorigenesis of non-small cell lung cancer.

## REFERENCES

- Langbein, S., et al. 2002. Alteration of the LRP1B gene region is associated with high grade of urothelial cancer. *Lab. Invest.* 82: 639-643.
- Cam, J.A., et al. 2004. The low density lipoprotein receptor-related protein 1B retains  $\beta$ -amyloid precursor protein at the cell surface and reduces amyloid- $\beta$  peptide production. *J. Biol. Chem.* 279: 29639-29646.
- Marschang, P., et al. 2004. Normal development and fertility of knockout mice lacking the tumor suppressor gene LRP1B suggest functional compensation by LRP1. *Mol. Cell. Biol.* 24: 3782-3793.
- Sonoda, I., et al. 2004. Frequent silencing of low density lipoprotein receptor-related protein 1B (LRP1B) expression by genetic and epigenetic mechanisms in esophageal squamous cell carcinoma. *Cancer Res.* 64: 3741-3747.
- Tanaga, K., et al. 2004. LRP1B attenuates the migration of smooth muscle cells by reducing membrane localization of urokinase and PDGF receptors. *Arterioscler. Thromb. Vasc. Biol.* 24: 1422-1428.
- Seki, N., et al. 2005. LRP1B is a negative modulator of increased migration activity of intimal smooth muscle cells from rabbit aortic plaques. *Biochem. Biophys. Res. Commun.* 331: 964-970.
- Li, Y., et al. 2005. Striking differences of LDL receptor-related protein 1B expression in mouse and human. *Biochem. Biophys. Res. Commun.* 333: 868-873.
- Niemeier, A., et al. 2005. Expression of LRP1 by human osteoblasts: a mechanism for the delivery of lipoproteins and vitamin K1 to bone. *J. Bone Miner. Res.* 20: 283-293.
- Pastrana, D.V., et al. 2005. LRP1B functions as a receptor for *Pseudomonas* exotoxin. *Biochim. Biophys. Acta* 1741: 234-239.

## CHROMOSOMAL LOCATION

Genetic locus: LRP1B (human) mapping to 2q22.1; Lrp1b (mouse) mapping to 2 B.

## SOURCE

LRP1B (K-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of LRP1B of human origin.

## 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-49229 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

LRP1B (K-20) is recommended for detection of LRP1B 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).

LRP1B (K-20) is also recommended for detection of LRP1B in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for LRP1B siRNA (h): sc-60968, LRP1B siRNA (m): sc-60969, LRP1B shRNA Plasmid (h): sc-60968-SH, LRP1B shRNA Plasmid (m): sc-60969-SH, LRP1B shRNA (h) Lentiviral Particles: sc-60968-V and LRP1B shRNA (m) Lentiviral Particles: sc-60969-V.

Molecular Weight of LRP1B: 600 kDa.

## 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.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.