SANTA CRUZ BIOTECHNOLOGY, INC.

LRP1 (8B8): sc-57352

BACKGROUND

Members of the LDL receptor gene family, including LDLR (low density lipoprotein receptor), LEP1 (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 LRP and α-2-Macroglobulin receptor, is an endocytic receptor that mediates the uptake of at least 15 ligands, including α-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 LRP1 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.
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.
8. Bu, G., et al. 2000. Role of RAP in the biogenesis of lipoprotein receptors. Trends Cardiovasc. Med. 10: 148-155.

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

LRP1 (8B8) is a mouse monoclonal antibody raised against light chain LRP1.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

LRP1 (8B8) is recommended for detection of light chain 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

LRP1 (8B8) is also recommended for detection of light chain of LRP1 in additional species, including rabbit.

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 SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 3) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

SELECT PRODUCT CITATIONS

1. Jiang, H., et al. 2021. CART mitigates oxidative stress and DNA damage in memory deficits of APP/PS1 mice via upregulating β-Amyloid metabolism-associated enzymes. Mol. Med. Rep. 23: 1-12.

RESEARCH USE

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

PROTOCOLS

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