Anti-LDL Receptor Antibody [SJ0197] - BSA and Azide free

HA750107

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IF-Cell, FC
Molecular Wt:	Predicted band size: 95 kDa
Clone number:	SJ0197

Description: LDL receptor mediates the endocytosis of cholesterol-rich LDL and thus maintains the plasma level of LDL. This occurs in all nucleated cells, but mainly in the liver which removes ~70% of LDL from the circulation. LDL receptors are clustered in clathrin-coated pits, and coated pits pinch off from the surface to form coated endocytic vesicles that carry LDL into the cell. After internalization, the receptors dissociate from their ligands when they are exposed to lower pH in endosomes. After dissociation, the receptor folds back on itself to obtain a closed conformation and recycles to the cell surface. The rapid recycling of LDL receptors provides an efficient mechanism for delivery of cholesterol to cells. It was also reported that by association with lipoprotein in the blood, viruses such as hepatitis C virus, Flaviviridae viruses and bovine viral diarrheal virus could enter cells indirectly via LDLR-mediated endocytosis. LDLR has been identified as the primary mode of entry for the Vesicular stomatitis virus in mice and humans. In addition, LDLR modulation is associated with early atherosclerosis-related lymphatic dysfunction. Synthesis of receptors in the cell is regulated by the level of free intracellular cholesterol; if it is in excess for the needs of the cell then the transcription of the receptor gene will be inhibited. LDL receptors are translated by ribosomes on the endoplasmic reticulum and are modified by the Golgi apparatus before travelling in vesicles to the cell surface.

Immunogen: Synthetic peptide within Human LDL Receptor aa 811-860 / 860.

Positive control: HEK-293 cell lysate, Huh7 cell lysate, NIH/3T3 cell lysate, Mouse liver tissue lysate, Rat liver tissue lysate, PC-12 cell lysates, A549, HeLa.

Subcellular location: Cell membrane, Membrane, clathrin-coated pit, Golgi apparatus, Early endosome, Late endosome, Lysosome.

Database links: SwissProt: P01130 Human | P35951 Mouse | P35952 Rat

Recommended Dilutions:

WB	1:1,000-1:5,000
IF-Cell	1:50-1:200
FC	1:50-1:100

Storage Buffer: 1*PBS (pH7.4).

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃ or -80℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

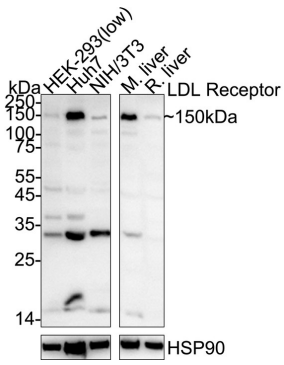

Fig1: Western blot analysis of LDL Receptor on different lysates with Rabbit anti-LDL Receptor antibody (HA750107) at 1/5,000 dilution.

Lane 1: HEK-293 cell lysate (low expression) (20 µg/Lane)
Lane 2: Huh7 cell lysate (20 µg/Lane)
Lane 3: NIH/3T3 cell lysate (20 µg/Lane)
Lane 4: Mouse liver tissue lysate (30 µg/Lane)
Lane 5: Rat liver tissue lysate (30 µg/Lane)

Predicted band size: 95 kDa
Observed band size: 150 kDa

Exposure time: 3 minutes; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA750107) at 1/5,000 dilution was used in primary antibody dilution (K1803) at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

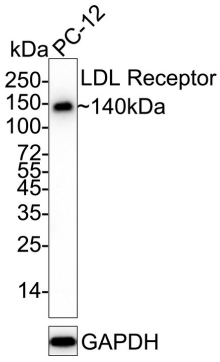

Fig2: Western blot analysis of LDL Receptor on PC-12 cell lysates with Rabbit anti-LDL Receptor antibody (HA750107) at 1/1,000 dilution.

Lysates/proteins at 20 µg/Lane.

Predicted band size: 95 kDa
Observed band size: 140 kDa

Exposure time: 6 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA750107) at 1/1,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

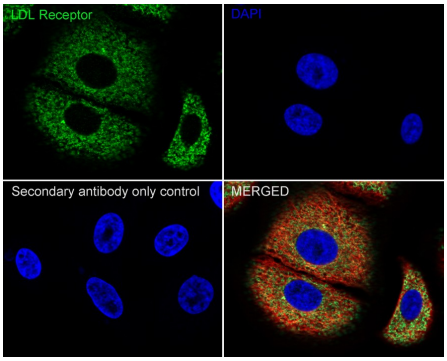

Fig3: Immunocytochemistry analysis of A549 cells labeling LDL Receptor with Rabbit anti-LDL Receptor antibody (HA750107) at 1/100 dilution.

Cells were fixed in 4% paraformaldehyde for 20 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 5 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-LDL Receptor antibody (HA750107) at 1/100 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (M1305-2, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

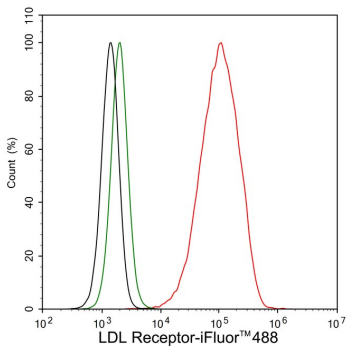

Fig4: Flow cytometric analysis of HeLa cells labeling LDL Receptor.

Cells were fixed and permeabilized. Then stained with the primary antibody (HA750107, 1μg/mL) (red) compared with Rabbit IgG Isotype Control (green). After incubation of the primary antibody at +4℃ for an hour, the cells were stained with a iFluor™ 488 conjugate-Goat anti-Rabbit IgG Secondary antibody (HA1121) at 1/1,000 dilution for 30 minutes at +4℃. Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Xie Y et al. Aberrant oligodendroglial LDL receptor orchestrates demyelination in chronic cerebral ischemia. J Clin Invest. 2021 Jan
2. Shin D et al. PCSK9 stimulates Syk, PKCdelta, and NF-kappaB, leading to atherosclerosis progression independently of LDL receptor. Nat Commun. 2024 Mar