Mouse LDL R Antibody

Monoclonal Rat IgG_{2A} Clone # 263123

Catalog Number: MAB2255

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse LDL R in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human LDL R or recombinant mouse LRP-6 is observed.
Source	Monoclonal Rat IgG_{2A} Clone # 263123
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse LDL R Ala22-Arg790 (Ala23Val, Cys27Gly) Accession # Q6GTJ9
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

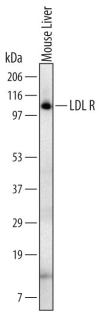
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	2 µg/mL	See Below
Flow Cytometry	0.25 µg/10^6 cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

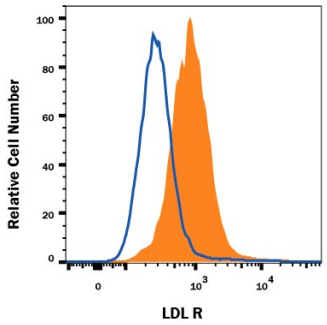
DATA

Western Blot



Detection of mouse LDL R by Western Blot. Western blot shows lysates of mouse liver tissue. PVDF membrane was probed with 2 µg/mL of Rat Anti-Mouse LDL R Monoclonal Antibody (Catalog # MAB2255) followed by HRP-conjugated Anti-Rat IgG Secondary Antibody (Catalog # HAF005). A specific band was detected for LDL R at approximately 100-110 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Flow Cytometry



Detection of LDL R in RAW 264.7 Mouse Cell Line by Flow Cytometry. RAW 264.7 mouse monocyte/macrophage cell line was stained with Rat Anti-Mouse LDL R Monoclonal Antibody (Catalog # MAB2255, filled histogram) or isotype control antibody (Catalog # MAB006, open histogram), followed by Allophycocyanin-conjugated Anti-Rat IgG Secondary Antibody (Catalog # F0113). View our protocol for Staining Membrane-associated Proteins.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

The low density lipoprotein receptor (LDL R) is the founding member of the LDL R family of scavenger receptors (1, 2, 3, 4). This family contains type I transmembrane molecules that are characterized by the presence of EGF repeats, complement-like repeats, and YWTD motifs that form β-propellers. Although members of the family were originally thought to be endocytic receptors, it is now clear that some members interact with adjacent cell-surface molecules, expanding their range of activities (2, 4). Mouse LDL R is synthesized as a 864 amino acid (aa) precursor that contains a 21 aa signal sequence, a 769 aa extracellular region, a 22 aa transmembrane segment and a 52 aa cytoplasmic tail (5). The extracellular region is complex. It consists of seven N-terminal complement-like cysteine-rich repeats (class A LDL domains) that bind LDL. Cysteines in this region participate in intrachain disulfide bonds. This region is followed by two EGF-like domains and six class B LDL repeats that generate a β-propeller whose blades each contain a YWTD motif. This area is likely responsible for ligand dissociation (6). Finally, there is a 50 aa membrane proximal Ser/Thr-rich region that shows extensive O-linked glycosylation, generating a native molecular weight for LDL R of 135 kDa (5). Within the 52 aa cytoplasmic region, there is an NPxY motif that links the receptor to clathrin pits and binds to select adaptor proteins (1, 7, 8). The extracellular region of mouse LDL R shares 78% and 87% aa identity with the extracellular region of human and rat LDL R, respectively. LDL R is constitutively expressed and binds apoB of LDL and apoE of VLDL (9). It is responsible for clearing 70% of plasma LDL in liver (9).

References:

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