

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
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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
Flow Cytometry	0.25-1 µg/10 ⁶ cells	RAW 264.7 mouse monocyte/macrophage cell line

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. ● 12 months from date of receipt, 2 to 8 °C as supplied.

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:

1. Strickland, D.K. *et al.* (2002) *Trends Endocrinol. Metab.* **13**:66.
2. Nykjaer, A. and T.E. Willnow (2002) *Trends Cell Biol.* **12**:273.
3. Gent, J. and I. Braakman (2004) *Cell. Mol. Life Sci.* **61**:2461.
4. Bujo, H. and Y. Saito (2006) *Arterioscler. Thromb. Vasc. Biol.* **26**:1246.
5. Hoffer, M.J. V. *et al.* (1993) *Biochem. Biophys. Res. Commun.* **191**:880.
6. Rudenko, G. and J. Deisenhofer (2003) *Curr. Opin. Struct. Biol.* **13**:683.
7. Trommsdorff, M. *et al.* (1998) *J. Biol. Chem.* **273**:33556.
8. Stolt, P.C. and H.H. Bock (2006) *Cell. Signal.* **18**:1560
9. Defesche, J.C. (2004) *Semin. Vasc. Med.* **4**:5.

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