

DESCRIPTION

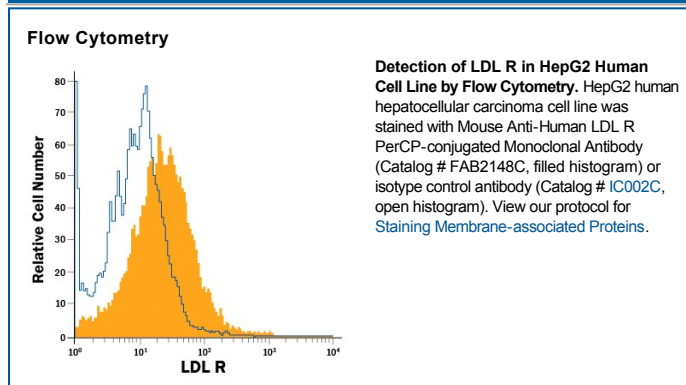
Species Reactivity	Human
Specificity	Detects human LDL R in ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant mouse (rm) LDL R, recombinant human LRP-5, or rmlRP-6 is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 472413
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human LDL R Ala22-Arg788 Accession # P01130
Conjugate	PerCP (Peridinin-chlorophyll Protein Complex) Excitation Wavelength: 482 and 564 nm Emission Wavelength: 675 nm
Formulation	Supplied 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	10 μ L/10 ⁶ cells	See Below

DATA



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. <ul style="list-style-type: none"> ● 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 receptors (1, 2). This family contains transmembrane molecules that are characterized by the presence of EGF repeats, complement-like repeats, and YWTD motifs that form β -propellers. Human LDL R is synthesized as an 860 amino acid (aa) type I transmembrane precursor that contains a 21 aa signal sequence, a 767 aa extracellular region, a 22 aa transmembrane segment and a 50 aa cytoplasmic tail (3). The extracellular region is complex. It consists of seven N-terminal complement-like cysteine-rich repeats that bind ligand. Cysteine residues in this region participate in intrachain disulfide bonds. This region is followed by three EGF-like repeats with a β -propeller YWTD containing motif. The EGF-like repeats are responsible for ligand binding and dissociation. Finally, there is a 50 aa membrane proximal Ser/Thr-rich region that serves as a carbohydrate attachment point (1, 3, 4). There is extensive O-linked and modest N-linked glycosylation. Thus the receptor's predicted molecular weight of 93 kDa is increased to a native molecular weight of 120-160 kDa (3, 4). Within the 50 aa cytoplasmic tail, there is an NPXY motif that links the receptor to clathrin pits (1, 2). The extracellular region of human LDL R shows 51% aa sequence identity to the extracellular region of human VLDL R, and 79% aa sequence identity to the extracellular region of mouse LDL R. LDL R is ubiquitously expressed, binds ApoB of LDL and ApoE of VLDL, and is responsible for clearing 70% of plasma LDL in liver (1, 5). It also is reported to bind to Factor VIII, PCSK9, and the human rhinovirus serotype 2 (1, 2, 7). Upon LDL particle binding to the hepatic LDL R, HMGCR expression is suppressed, reducing cholesterol biosynthesis; ACAT activity is increased, reducing toxic free cholesterol; and LDL R synthesis is curtailed, thereby reducing LDL uptake (1).

References:

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3. Yamamoto, T. *et al.* (1984) *Cell* **39**:27.
4. Davis, C.G. *et al.* (1986) *J. Biol. Chem.* **261**:2828.
5. Defesche, J.C. (2004) *Semin. Vasc. Med.* **4**:5.
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