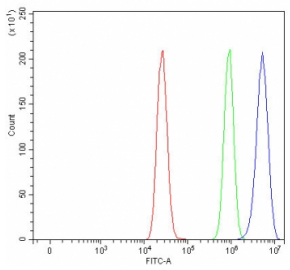
LDLR Antibody Rabbit Polyclonal / LDL Receptor (RQ8038)

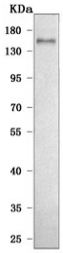
Catalog No.	Formulation	Size
RQ8038	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P01130
Applications	Western Blot : 0.5-1ug/ml Flow Cytometry : 1-3ug/million cells Direct ELISA : 0.1-0.5ug/ml
Limitations	This LDLR antibody is available for research use only.



Flow cytometry testing of fixed and permeabilized human MCF7 cells with LDLR antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= LDLR antibody.



Western blot testing of human HeLa cell lysate with LDLR antibody. Expected molecular weight: 95-160 kDa depending on glycosylation level.

Description

LDLR antibody recognizes Low density lipoprotein receptor, a type I transmembrane glycoprotein that plays a central role in cellular cholesterol uptake and lipid homeostasis. LDLR Antibody Rabbit Polyclonal is developed to detect LDL receptor expression in research applications focused on lipid metabolism, cardiovascular biology, and metabolic disease. The LDL receptor is primarily localized to the plasma membrane and endocytic vesicles of hepatocytes and other peripheral cells, where it binds low density lipoprotein particles and mediates their internalization through clathrin-coated pits.

The LDLR gene is located on chromosome 19p13.2 and encodes a multi-domain protein composed of ligand-binding repeats, epidermal growth factor-like domains, an O-linked glycosylation region, a single transmembrane segment, and a cytoplasmic tail containing motifs required for receptor-mediated endocytosis. Upon binding apolipoprotein B100- or apolipoprotein E-containing lipoproteins, LDLR undergoes internalization and delivers cholesterol to lysosomes for processing. LDLR antibody supports investigations into receptor expression, intracellular trafficking, and regulation of cholesterol metabolism.

LDLR expression is highest in liver, adrenal gland, and steroidogenic tissues, where cholesterol uptake is essential for membrane synthesis and hormone production. Expression is tightly regulated by intracellular cholesterol levels through sterol regulatory element-binding protein pathways. Mutations in LDLR are a well-established cause of familial hypercholesterolemia, characterized by elevated plasma LDL cholesterol and increased risk of premature atherosclerosis. LDLR antibody is therefore valuable for studying genetic lipid disorders and mechanisms of cholesterol regulation.

Altered LDL receptor expression has also been implicated in metabolic syndrome, diabetes, and certain cancers, where tumor cells may increase lipid uptake to support rapid proliferation. Because LDLR is involved in receptor-mediated endocytosis, it is also explored in nanoparticle-based drug delivery systems. This rabbit polyclonal antibody recognizes multiple epitopes on the LDL receptor protein, enhancing detection sensitivity and supporting analysis of receptor biology in lipid-associated disease research.

Application Notes

Optimal dilution of the LDLR antibody should be determined by the researcher.

Immunogen

E. coli-derived recombinant human protein (amino acids A705-A860) was used as the immunogen for the LDLR antibody.

Storage

After reconstitution, the LDLR antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.