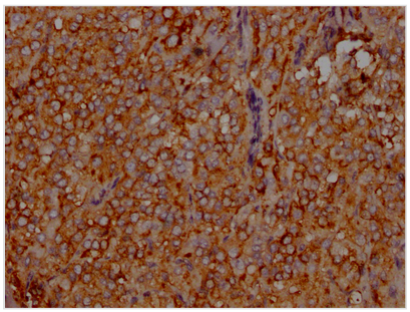
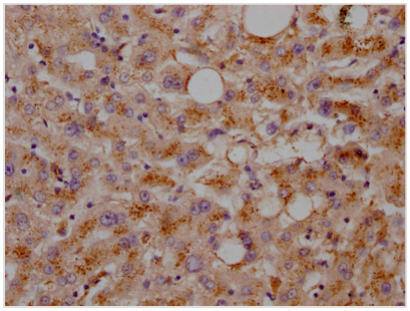
LDLR Recombinant Monoclonal Antibody

Product Code	CSB-RA575353A0HU
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P01130
Immunogen	A synthesized peptide derived from human LDL Receptor
Species Reactivity	Human
Tested Applications	ELISA, IHC, IF, FC; Recommended dilution: IHC:1:50-1:200, IF:1:20-1:200, FC:1:20-1:200
Relevance	Binds LDL, the major cholesterol-carrying lipoprotein of plasma, and transports it into cells by endocytosis. In order to be internalized, the receptor-ligand complexes must first cluster into clathrin-coated pits.
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Product Type	Recombinant Antibody
Immunogen Species	Homo sapiens (Human)
Research Area	Cancer; Cardiovascular; Metabolism; Signal transduction
Gene Names	LDLR
Clone No.	2B10

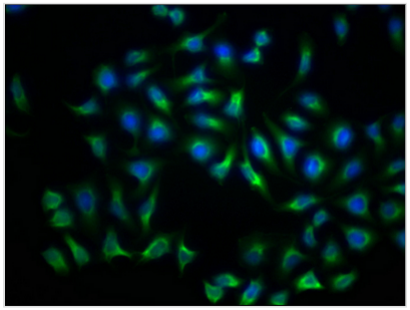
Image



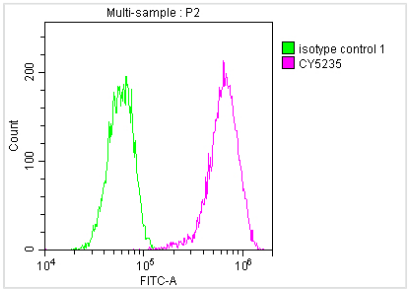
IHC image of CSB-RA575353A0HU diluted at 1:100 and staining in paraffin-embedded human adrenal gland tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.



IHC image of CSB-RA575353A0HU diluted at 1:100 and staining in paraffin-embedded human liver tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.



Immunofluorescence staining of Hela Cells with CSB-RA575353A0HU at 1:50, counter-stained with DAPI. The cells were fixed in 4% formaldehyde, permeated by 0.2% TritonX-100, and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4?. Nuclear DNA was labeled in blue with DAPI. The secondary antibody was FITC-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L).



Overlay histogram showing Hela cells stained with CSB-RA575353A0HU (red line) at 1:50. The cells were fixed in 4% formaldehyde (15min) and permeated by 0.2% TritonX-100 for 10min. Then 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (1ug/1*10^6cells) for 45min at 4?.The secondary antibody used was FITC-conjugated goat anti-rabbit IgG (H+L) at 1/200 dilution for 30min at 4?. Control antibody (green line) was Rabbit IgG (1µg/1*10^6 cells) used under the same conditions. Acquisition of >10,000 events was performed.

Description

CUSABIO prepared the LDLR recombinant monoclonal antibody using protein and DNA recombinant technology. Initially, a synthesized peptide derived from human LDLR was used to immunize mice. After that, spleen cells were extracted from the immunized mice under aseptic conditions, and the total RNA was isolated from these cells. The cDNA synthesized from RNA reverse transcription was used as a template for PCR amplification of the LDLR antibody gene. The obtained gene was then introduced into a vector, which was subsequently transfected into host cells for culture. The LDLR recombinant monoclonal antibody was purified from the supernatant of the cell culture using affinity chromatography. This antibody underwent rigorous verification and can be used for detecting human LDLR protein in ELISA, IHC, IF, and FC experiments.

The LDLR protein is a transmembrane receptor that plays a crucial role in cholesterol homeostasis by regulating the uptake of LDL (low-density lipoprotein) particles from the blood into cells. When LDL particles bind to the extracellular domain of LDLR, the receptor undergoes a conformational change

that triggers its internalization by endocytosis. The LDL particles are then delivered to lysosomes, where they are hydrolyzed, and the cholesterol is released into the cytoplasm. The freed cholesterol can either be utilized by the cell or can be re-esterified for storage. Mutations in the LDLR gene can lead to familial hypercholesterolemia.