Anti-LRP1 Antibody [SA0290]

ET1601-1

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IF-Tissue, IHC-P, IP, IHC-Fr
Molecular Wt:	Predicted band size: 505 kDa
Clone number:	SA0290

Description: LRP1 is a member of the LDLR family and ubiquitously expressed in multiple tissues, though it is most abundant in vascular smooth muscle cells (SMCs), hepatocytes, and neurons. LRP1 plays a key role in intracellular signaling and endocytosis, which thus implicate it in many cellular and biological processes, including lipid and lipoprotein metabolism, protease degradation, platelet derived growth factor receptor regulation, integrin maturation and recycling, regulation of vascular tone, regulation of blood brain barrier permeability, cell growth, cell migration, inflammation, and apoptosis, as well as diseases such as neurodegenerative diseases, atherosclerosis, and cancer. The LRP1 gene encodes a 600 kDa precursor protein that is processed by furin in the trans-Golgi complex, resulting in a 515 kDa alpha-chain and an 85 kDa beta-chain associated noncovalently.

Immunogen: Synthetic peptide within Human LRP1 aa 4,471-4,520 / 4,544.

Positive control: Mouse liver tissue lysate, Human lung tissue lysate, Rat liver tissue lysate, Rat lung tissue lysate, Mouse lung tissue lysate, Human liver tissue lysate, mouse brain tissue, rat brain tissue, rat liver tissue, human lung tissue, human liver tissue, mouse liver tissue.

Subcellular location: Cytoplasm, Nucleus, Membrane.

Database links: SwissProt: Q07954 Human | Q91ZX7 Mouse | G3V928 Rat

Recommended Dilutions:

WB	1:1,000-1:5,000
IF-Tissue	1:50
IHC-P	1:200-1:2,000
IP	1-2μg/sample
IHC-Fr	1:100

Storage Buffer: 1*TBS (pH7.4), 0.05% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Protein A affinity purified.

Images

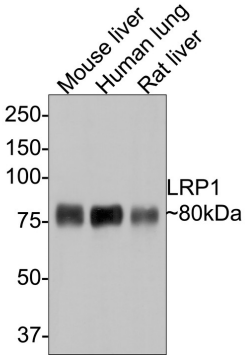

Fig1: Western blot analysis of LRP1 on different lysates with Rabbit anti-LRP1 antibody (ET1601-1) at 1/5,000 dilution.

Lane 1: Mouse liver tissue lysate
Lane 2: Human lung tissue lysate
Lane 3: Rat liver tissue lysate

Lysates/proteins at 20 µg/Lane.

Predicted band size: 505 kDa
Observed band size: 80 kDa

Exposure time: 30 seconds;

8% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (ET1601-1) at 1/5,000 dilution was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:300,000 dilution was used for 1 hour at room temperature.

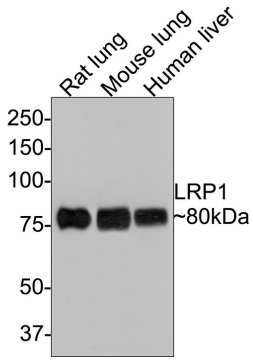

Fig2: Western blot analysis of LRP1 on different lysates with Rabbit anti-LRP1 antibody (ET1601-1) at 1/5,000 dilution.

Lane 1: Rat lung tissue lysate
Lane 2: Mouse lung tissue lysate
Lane 3: Human liver tissue lysate

Lysates/proteins at 20 µg/Lane.

Predicted band size: 505 kDa
Observed band size: 80 kDa

Exposure time: 1 minute;

8% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (ET1601-1) at 1/5,000 dilution was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:300,000 dilution was used for 1 hour at room temperature.

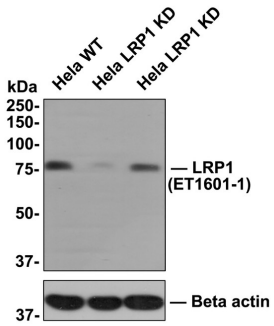

Fig3: All lanes: Western blot analysis of LRP1 with anti-LRP1 antibody (ET1601-1) at 1:1,000 dilution.
Lane 1: Wild-type Hela whole cell lysate (10 µg).
Lane 2/3: LRP1 knockdown Hela whole cell lysate (10 µg).

ET1601-1 was shown to specifically react with LRP1 in wild-type Hela cells. Weakened bands were observed when LRP1 knockdown samples were tested. Wild-type and LRP1 knockdown samples were subjected to SDS-PAGE. Proteins were transferred to a PVDF membrane and blocked with 5% NFDM in TBST for 1 hour at room temperature. The primary antibody (ET1601-1, 1/1,000) was used in 5% BSA at room temperature for 2 hours. Goat Anti-Rabbit IgG-HRP Secondary Antibody (HA1001) at 1:300,000 dilution was used for 1 hour at room temperature.

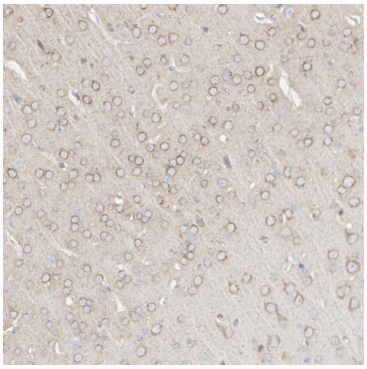

Fig4: Immunohistochemical analysis of paraffin-embedded mouse brain tissue with Rabbit anti-LRP1 antibody (ET1601-1) at 1/2,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1601-1) at 1/2,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

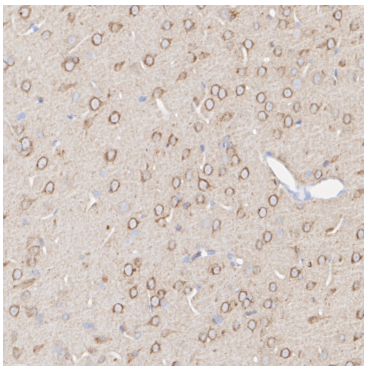

Fig5: Immunohistochemical analysis of paraffin-embedded rat brain tissue with Rabbit anti-LRP1 antibody (ET1601-1) at 1/2,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1601-1) at 1/2,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

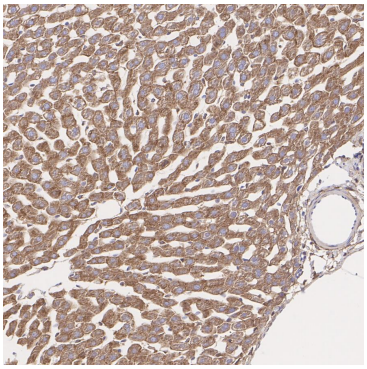

Fig6: Immunohistochemical analysis of paraffin-embedded rat liver tissue with Rabbit anti-LRP1 antibody (ET1601-1) at 1/5,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1601-1) at 1/5,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

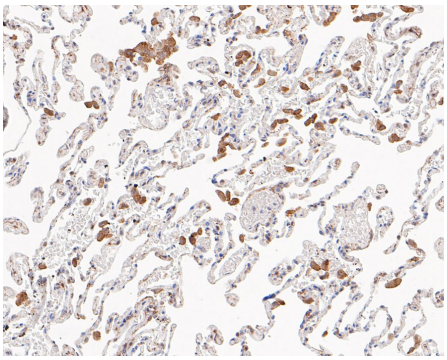

Fig7: Immunohistochemical analysis of paraffin-embedded human lung tissue with Rabbit anti-LRP1 antibody (ET1601-1) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1601-1) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

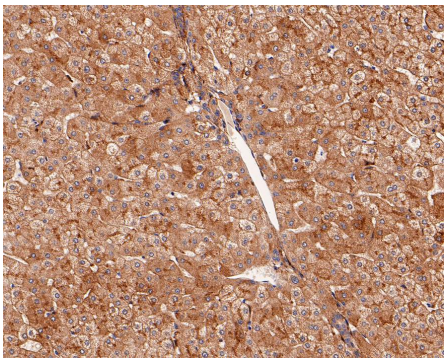

Fig8: Immunohistochemical analysis of paraffin-embedded human liver tissue with Rabbit anti-LRP1 antibody (ET1601-1) at 1/2,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1601-1) at 1/2,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

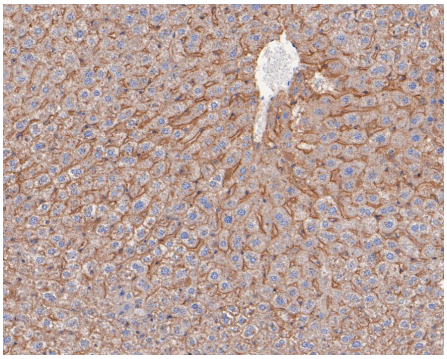

Fig9: Immunohistochemical analysis of paraffin-embedded mouse liver tissue with Rabbit anti-LRP1 antibody (ET1601-1) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1601-1) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

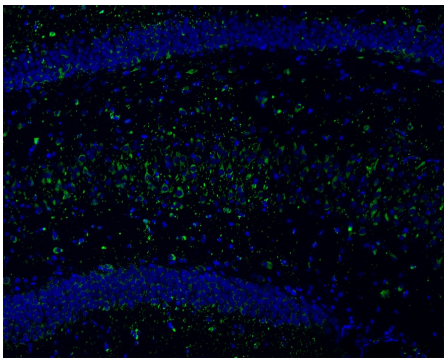

Fig10: Immunofluorescence analysis of frozen mouse hippocampus tissue labeling LRP1 with Rabbit anti-LRP1 antibody (ET1601-1).
The tissues were blocked in 3% BSA for 30 minutes at room temperature, washed with PBS, and then probed with the primary antibody (ET1601-1, green) at 1/100 dilution overnight at 4℃, washed with PBS. Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) was used as the secondary antibody at 1/200 dilution. Nuclei were counterstained with DAPI (blue). Image acquisition was performed with KFBIO KF-FL-400 Scanner.

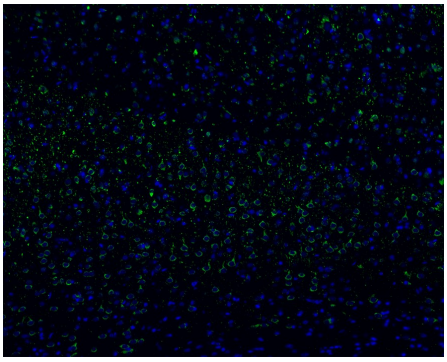

Fig11: Immunofluorescence analysis of frozen mouse cerebral cortex tissue labeling LRP1 with Rabbit anti-LRP1 antibody (ET1601-1).
The tissues were blocked in 3% BSA for 30 minutes at room temperature, washed with PBS, and then probed with the primary antibody (ET1601-1, green) at 1/100 dilution overnight at 4℃, washed with PBS. Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) was used as the secondary antibody at 1/200 dilution. Nuclei were counterstained with DAPI (blue). Image acquisition was performed with KFBIO KF-FL-400 Scanner.

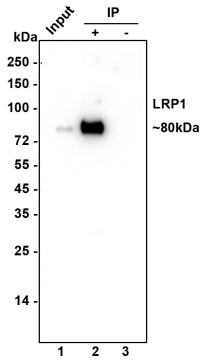

Fig12: LRP1 was immunoprecipitated from 0.2 mg HeLa cell lysate with ET1601-1 at 2 µg/10 µl beads. Western blot was performed from the immunoprecipitate using ET1601-1 at 1/1,000 dilution. Anti-Rabbit IgG for IP Nano-secondary antibody (NBI01H) at 1/5,000 dilution was used for 1 hour at room temperature.

Lane 1: HeLa cell lysate (input)
Lane 2: ET1601-1 IP in HeLa cell lysate
Lane 3: Rabbit IgG instead of ET1601-1 in HeLa cell lysate

Blocking/Dilution buffer: 5% NFDM/TBST
Exposure time: 3 minutes; ECL: K1801

Background References

1. Fernandez-Castaneda, A. et al. 2013. Identification of the low density lipoprotein (LDL) receptor-related protein-1 interactome in central nervous system myelin suggests a role in the clearance of necrotic cell debris. J. Biol. Chem. 288: 4538-4548.
2. Yahiro, K. et al. 2012. Low-density lipoprotein receptor-related protein-1 (LRP1) mediates autophagy and apoptosis caused by Helicobacter pylori VacA. J. Biol. Chem. 287: 31104-31115.