SunLong Biotech Co.,LTD
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[Primary Antibody]

Rabbit Anti-Caveolin-1 antibody

Catalog Number: SL1453R

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	Caveolin-1
Immunogen:	KLH conjugated synthetic peptide derived from human Caveolin-1: 2-120/178
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. Shipped at 4℃. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.
Applications:	WB=1:500-2000 IHC-P=1:100-500 IHC-F=1:100-500 IF=1:100-500 （Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	Human,Mouse,Rat(predicted:Dog,Pig,Cow,Horse,Rabbit,Sheep)
Predicted MW.:	20kDa
Subcellular Location:	cytoplasmic The cell membrane
Background:	The scaffolding protein encoded by this gene is the main component of the caveolae plasma membranes found in most cell types. The protein links integrin subunits to the tyrosine kinase FYN, an initiating step in coupling integrins to the Ras-ERK pathway and promoting cell cycle progression. The gene is a tumor suppressor gene candidate and a negative regulator of the Ras-p42/44 MAP kinase cascade. CAV1 and CAV2 are located next to each other on chromosome 7 and express colocalizing proteins that form a stable hetero-oligomeric complex. By using alternative initiation codons in the same reading frame, two isoforms (alpha and beta) are encoded by a single transcript from this gene. [provided by RefSeq]. **Function:** May act as a scaffolding protein within caveolar membranes. Interacts directly with G-protein alpha subunits and can functionally regulate

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	their activity. Involved in the costimulatory signal essential for T-cell receptor (TCR)-mediated T-cell activation. Its binding to DPP4 induces T-cell proliferation and NF-kappa-B activation in a T-cell receptor/CD3-dependent manner. Recruits CTNNB1 to caveolar membranes and may regulate CTNNB1-mediated signaling through the Wnt pathway. **Subunit:** Homooligomer. Interacts with GLIPR2, NOSTRIN, SNAP25 and syntaxin. Interacts with rotavirus A NSP4. Interacts (via the N-terminus) with DPP4; the interaction is direct. Interacts with CTNNB1, CDH1 and JUP. Interacts with BMX and BTK. **Subcellular Location:** Golgi apparatus membrane;Peripheral membrane protein. Cell membrane; Peripheral membrane protein. Membrane, caveola; Peripheral membrane protein. Membrane raft. Note=Colocalized with DPP4 in membrane rafts. Potential hairpin-like structure in the membrane. Membrane protein of caveolae. **Tissue Specificity:** Expressed in muscle and lung, less so in liver, brain and kidney. **Post-translational modifications:** The initiator methionine for isoform Beta is removed during or just after translation. The new N-terminal amino acid is then N-acetylated. Phosphorylated at Tyr-14 by ABL1 in response to oxidative stress. DISEASE: Defects in CAV1 are the cause of congenital generalized lipodystrophy type 3 (CGL3) [MIM:612526]; also called Berardinelli-Seip congenital lipodystrophy type 3 (BSCL3). Congenital generalized lipodystrophies are autosomal recessive disorders characterized by a near absence of adipose tissue, extreme insulin resistance, hypertriglyceridemia, hepatic steatosis and early onset of diabetes. **Similarity:** Belongs to the caveolin family. **Database links:** **Entrez Gene:** 403980 Dog **Entrez Gene:** 857 Human **Entrez Gene:** 12389 Mouse **Entrez Gene:** 25404 Rat Omim: 601047 Human **SwissProt:** P33724 Dog **SwissProt:** Q03135 Human **SwissProt:** P49817 Mouse **SwissProt:** P41350 Rat **Unigene:** 3850 Dog **Unigene:** 74034 Human **Unigene:** 28278 Mouse

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	Unigene: 470537 Mouse **Unigene:** 22518 Rat Signaling Intermediates Caveolin-1 is an important suppressor in cell growth-related signaling pathways and in the occurrence and development of Tumours. Caveolae are specialized membrane structures within the cell membrane, involved in various cellular activities including molecular transport, cell adhesion, and Signal transduction. Caveolin-1 is an important structural protein in Caveolae, inhibits cell growth, and interacts with various signaling molecules associated with the occurrence and development of human Tumours. Caveolin acts as a scaffolding protein in the integration of Signal transduction. Caveolins constitute a protein family and are the major structural components of hairpin-like domains in the cell membrane. Caveolin acts as a scaffolding protein in the integration of Signal transduction. To date, three Caveolins (Caveolin-1, 2, and 3) have been identified, with different tissue distributions. Caveolin-1 is involved in the pathogenesis of breast epithelial cells hyperplasia. This antibody recognizes both α and β isoforms of Caveolin-1.

[VALIDATION IMAGES]

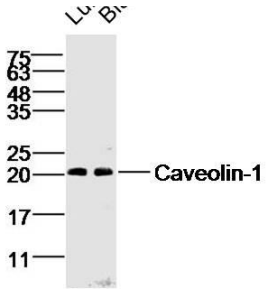


Figure 1. Sample: Lung (Mouse) Lysate at 40 ug Bladder (Mouse) Lysate at 40 ug Primary: Anti-Caveolin-1 (SL1453R) at 1/300 dilution Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution Predicted band size: 20 kD Observed band size: 20 kD

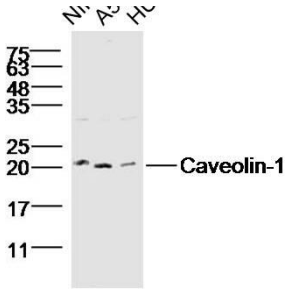


Figure 2. Sample: NIH/3T3 Cell Lysate at 40 ug A549 Cell Lysate at 40 ug HUVEC Cell Lysate at 40 ug Primary: Anti-Caveolin-1 (SL1453R) at 1/300 dilution Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution Predicted band size: 20 kD Observed band size: 20 kD

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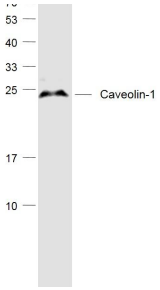


Figure 3. Sample: Lung (Mouse) Lysate at 40 ug Primary: Anti-Caveolin-1 (SL1453R) at 1/1000 dilution Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution Predicted band size: 20 kD Observed band size: 20 kD

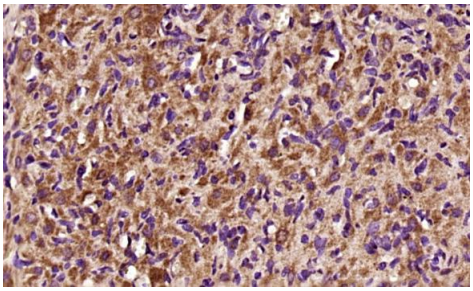


Figure 4. Paraformaldehyde-fixed, paraffin embedded (Rat ovary); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Caveolin-1) Polyclonal Antibody, Unconjugated (SL1453R) at 1:400 overnight at 4°C, followed by a conjugated secondary antibody (sp-0023) for 20 minutes and DAB staining

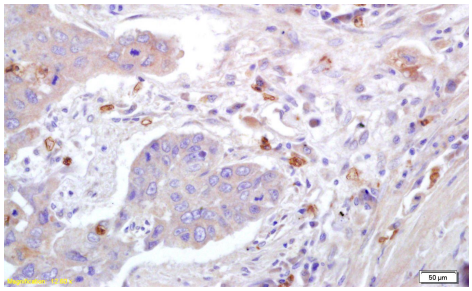


Figure 5. Tissue/cell: human lung carcinoma; 4% Paraformaldehyde-fixed and paraffin-embedded; Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 20 min; Incubation: Anti-Caveolin-1 Polyclonal Antibody, Unconjugated(SL1453R) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining

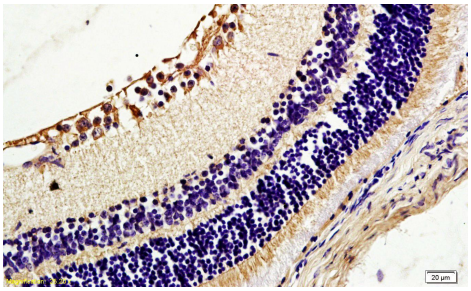


Figure 6. Tissue/cell: mouse retina tissue; 4% Paraformaldehyde-fixed and paraffin-embedded; Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 20 min; Incubation: Anti-Caveolin-1 Polyclonal Antibody, Unconjugated(SL1453R) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining

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