SunLong Biotech Co.,LTD
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[Primary Antibody]

Rabbit Anti-Caveolin-2 antibody

Catalog Number: SL6310R

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	Caveolin-2
Immunogen:	KLH conjugated synthetic peptide derived from human Caveolin-2: 41-140/162
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:	IHC-P=1:100-500 IHC-F=1:100-500 ICC/IF=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,Rat(predicted:Mouse)
Predicted MW.:	18kDa
Subcellular Location:	The nucleus cytoplasmic The cell membrane
Background:	May act as a scaffolding protein within caveolar membranes. Interacts directly with G-protein alpha subunits and can functionally regulate their activity. Acts as an accessory protein in conjunction with CAV1 in targeting to lipid rafts and driving caveolae formation. The Ser-36 phosphorylated form has a role in modulating mitosis in endothelial cells. Positive regulator of cellular mitogenesis of the MAPK signaling pathway. Required for the insulin-stimulated nuclear translocation and activation of MAPK1 and STAT3, and the subsequent regulation of cell cycle progression. **Function:** May act as a scaffolding protein within caveolar membranes. Interacts directly with G-protein alpha subunits and can functionally regulate their activity. Acts as an accessory protein in conjunction with CAV1 in

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	targeting to lipid rafts and driving caveolae formation. The Ser-36 phosphorylated form has a role in modulating mitosis in endothelial cells. Positive regulator of cellular mitogenesis of the MAPK signaling pathway. Required for the insulin-stimulated nuclear translocation and activation of MAPK1 and STAT3, and the subsequent regulation of cell cycle progression. **Subunit:** Monomer or homodimer. **Subcellular Location:** Nucleus. Cytoplasm. Golgi apparatus membrane; Peripheral membrane protein. Cell membrane; Peripheral membrane protein. Membrane, caveola; Peripheral membrane protein. **Tissue Specificity:** Expressed in endothelial cells, smooth muscle cells, skeletal myoblasts and fibroblasts. **Post-translational modifications:** Phosphorylated on serine and tyrosine residues. CAV1 promotes phosphorylation on Ser-23 which then targets the complex to the plasma membrane, lipid rafts and caveolae. Phosphorylation on Ser-36 appears to modulate mitosis in endothelial cells (By similarity). Phosphorylation on both Tyr-19 and Tyr-27 is required for insulin-induced 'Ser-727' phosphorylation of STAT3 and its activation. Phosphorylation on Tyr-19 is required for insulin-induced phosphorylation of MAPK1 and DNA binding of STAT3. Tyrosine phosphorylation is induced by both EGF and insulin. **Similarity:** Belongs to the caveolin family. **Database links:** **Entrez Gene:** 858 Human **Entrez Gene:** 12390 Mouse **Entrez Gene:** 100362824 Rat **Entrez Gene:** 363425 Rat Omim: 601048 Human **SwissProt:** O46550 Dog **SwissProt:** P51636 Human **SwissProt:** Q9WVC3 Mouse **SwissProt:** Q2IBC5 Rat **Unigene:** 212332 Human **Unigene:** 603096 Human **Unigene:** 396075 Mouse **Unigene:** 81070 Rat Caveolin is an important suppressor in cell growth-related signaling pathways and tumor development. Caveolae are specialized membrane structures within the cell membrane that participate 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

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	signaling molecules associated with the development and progression of various human tumors. 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 plasma 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, which have different tissue distributions.

[VALIDATION IMAGES]

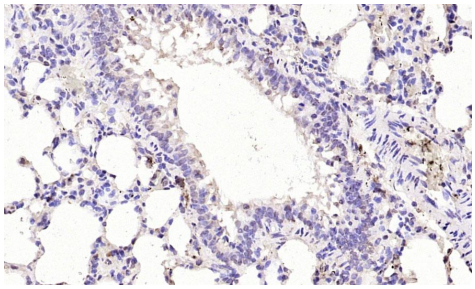


Figure 1. Paraformaldehyde-fixed, paraffin embedded (rat lung); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Caveolin-2) Polyclonal Antibody, Unconjugated (SL6310R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining

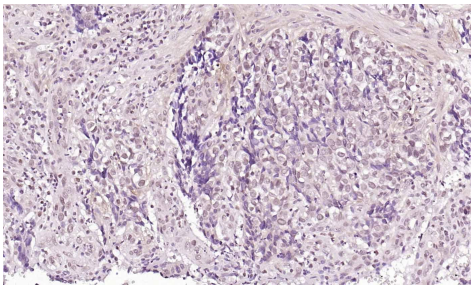


Figure 2. Paraformaldehyde-fixed, paraffin embedded (Human esophageal cancer); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Incubation with (Caveolin-2) Polyclonal Antibody, Unconjugated (SL6310R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining

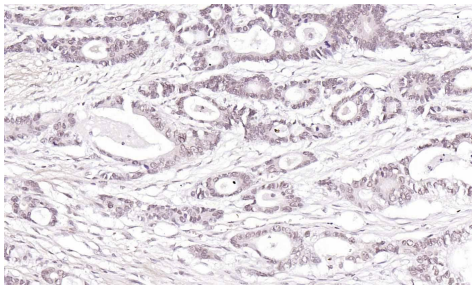


Figure 3. Paraformaldehyde-fixed, paraffin embedded (human rectal carcinoma); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Incubation with (Caveolin-2) Polyclonal Antibody, Unconjugated (SL6310R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining

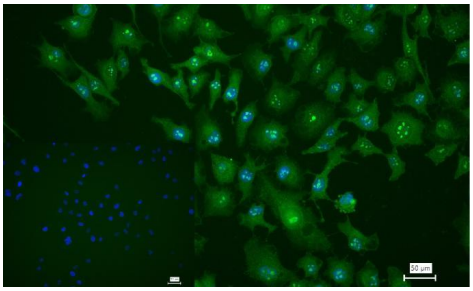


Figure 4. 4% Paraformaldehyde-fixed HUVEC (H) cell; Triton X-100 at r.t. for 20 min; Antibody incubation with (Caveolin-2) polyclonal Antibody, unconjugated (SL6310R) 1:200, 90 min at 37°C; followed by conjugated Goat Anti-Rabbit IgG antibody (green, SL0295G-FITC) at 37°C for 90 min, DAPI (blue, C02-04002) was used to stain the cell nuclei. PBS instead of the primary antibody was used as the blank control

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