10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

CAV1 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7767b

Product Information

Application	WB, IHC-P, FC, E
Primary Accession	Q03135
Other Accession	P41350, Q09YN6, Q6RVA9, P49817, P79132
Reactivity	Human
Predicted	Bovine, Mouse, Pig, Rabbit, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB15703
Calculated MW	20472
Antigen Region	2-30

Additional Information

Gene ID	857
Other Names	Caveolin-1, CAV1, CAV
Target/Specificity	This CAV1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 2-30 amino acids from the N-terminal region of human CAV1.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	CAV1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CAV1
Synonyms	CAV

Function	May act as a scaffolding protein within caveolar membranes (PubMed:11751885). Forms a stable heterooligomeric complex with CAV2 that targets to lipid rafts and drives caveolae formation. Mediates the recruitment of CAVIN proteins (CAVIN1/2/3/4) to the caveolae (PubMed:19262564). Interacts directly with G-protein alpha subunits and can functionally regulate their activity (By similarity). 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 (PubMed:17287217). Recruits CTNNB1 to caveolar membranes and may regulate CTNNB1-mediated signaling through the Wnt pathway (By similarity). Negatively regulates TGFB1-mediated activation of SMAD2/3 by mediating the internalization of TGFBR1 from membrane rafts leading to its subsequent degradation (PubMed:25893292). Binds 20(S)- hydroxycholesterol (20(S)-OHC) (By similarity).
Cellular Location	Golgi apparatus membrane; Peripheral membrane protein. Cell membrane; Peripheral membrane protein. Membrane, caveola; Peripheral membrane protein. Membrane raft. Golgi apparatus, trans-Golgi network {ECO:0000250|UniProtKB:P33724} Note=Colocalized with DPP4 in membrane rafts. Potential hairpin-like structure in the membrane. Membrane protein of caveolae
Tissue Location	Skeletal muscle, liver, stomach, lung, kidney and heart (at protein level). Expressed in the brain

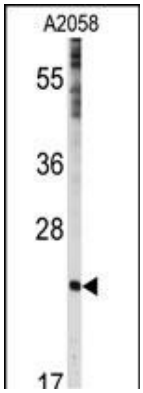
Background

The scaffolding protein CAV1 is the main component of the caveolae plasma membranes found in most cell types. This 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 CAV1 gene is a tumor suppressor gene candidate and a negative regulator of the Ras-p42/44 MAP kinase cascade.

References

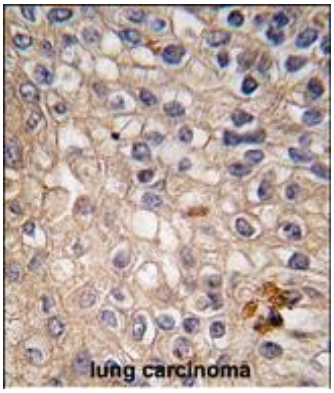
Smith,J.L.,J. Virol. 82 (19), 9505-9512 (2008)
Zhong,Y., J. Neurosci. 28 (31), 7788-7796 (2008)
Di Vizio,D., Cell Cycle 7 (14), 2257-2267 (2008)
Lee,H., J. Biol. Chem. 276 (37), 35150-35158 (2001)
Schlegel,A., J. Biol. Chem. 276 (6), 4398-4408 (2001)

Images

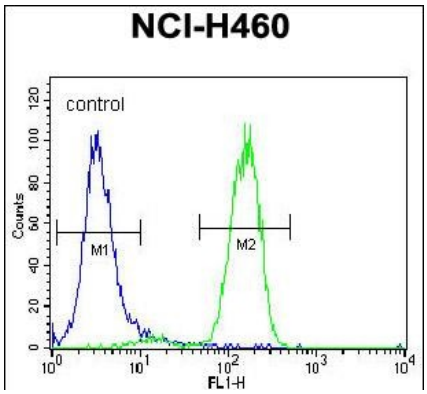


Western blot analysis of anti-CAV1 Antibody (N-term) (Cat.#AP7767b) in A2058 cell line lysates (35ug/lane). CAV1(N-term)(arrow) was detected using the purified Pab.

Formalin-fixed and paraffin-embedded human lung



carcinoma tissue reacted with CAV1 antibody (N-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



CAV1 Antibody (N-term) (Cat. #AP7767b) flow cytometric analysis of NCI-H460 cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Citations

- ATP13A3 and caveolin-1 as potential biomarkers for difluoromethylornithine-based therapies in pancreatic cancers.