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Rabbit Anti-Caveolin-1 Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP52245

Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	Q03135
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	20472
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Caveolin-1
Epitope Specificity	2-120/178
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
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.
SIMILARITY	Belongs to the caveolin family.
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.
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.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	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].

Additional Information

Gene ID	857
Other Names	CGL3; PPH3; BSCL3; LCCNS; VIP21; MSTP085; Caveolin-1; CAV1; CAV
Target/Specificity	Expressed in muscle and lung, less so in liver, brain and kidney.
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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

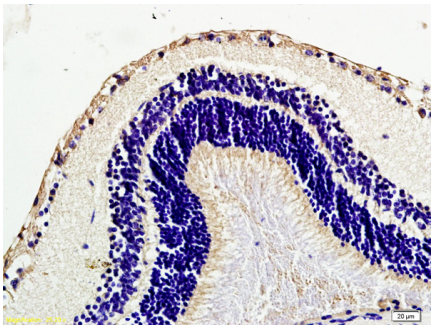
May act as a scaffolding protein within caveolar membranes. Interacts directly with G-protein alpha subunits and can functionally regulate their activity (By similarity). Involved in the costimulatory signal essential for T-cell receptor (TCR)- mediated T-cell activation. Its binding to DPP4 induces T-cell proliferation and NF-kappa-B activation in a T-cell receptor/CD3- dependent manner. Recruits CTNNB1 to caveolar membranes and may regulate CTNNB1-mediated signaling through the Wnt pathway.

References

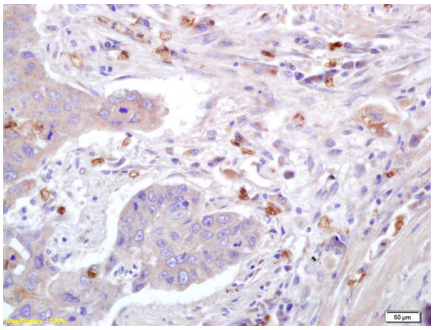
Glenney J.R. Jr.,et al.FEBS Lett. 314:45-48(1992).
Hurlstone A.F.,et al.Oncogene 18:1881-1890(1999).
Engelman J.A.,et al.FEBS Lett. 448:221-230(1999).
Kalnine N.,et al.Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases.
Vainonen J.P.,et al.Biochem. Biophys. Res. Commun. 320:480-486(2004).

Images

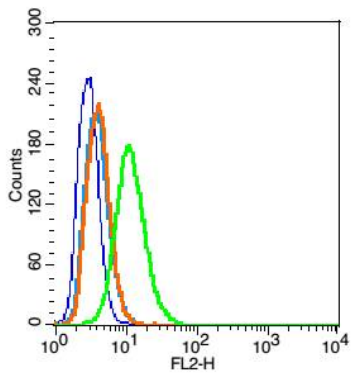
Lane 1: mouse lung lysates Lane 2: mouse muscle lysates probed with Anti Caveolin-1 Polyclonal Antibody, Unconjugated (AP52245) at 1:200 in 4˚C. Followed by conjugation to secondary antibody at 1:3000 90min in 37˚C. Predicted band 20kD. Observed band size: 20kD.



Formalin-fixed and paraffin embedded mouse eye labeled with Anti Caveolin-1 Polyclonal Antibody, Unconjugated (AP52245) at 1:200 followed by conjugation to the secondary antibody and DAB staining.



Formalin-fixed and paraffin embedded human lung carcinoma labeled with Anti-Caveolin-1 Polyclonal Antibody, Unconjugated (AP52245) at 1:200 followed by conjugation to the secondary antibody and DAB staining.



RSC96 cells probed with Caveolin-1 Polyclonal Antibody, Unconjugated (AP52245) at 1:100 for 30 minutes followed by incubation with a conjugated secondary (PE Conjugated) (green) for 30 minutes compared to control cells (blue), secondary only (light blue) and isotype control (orange).