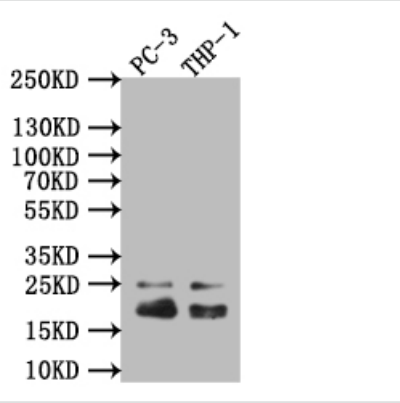
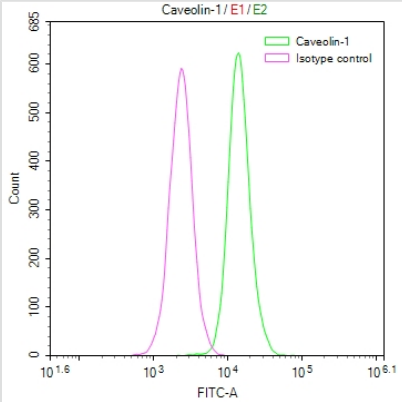
CAV1 Recombinant Monoclonal Antibody

Product Code	CSB-RA228590A0HU
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	Q03135
Immunogen	A synthesized peptide derived from Human CAV1
Species Reactivity	Human
Tested Applications	ELISA, WB, FC; Recommended dilution: WB:1:500-1:2000, FC:1:50-1:200
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Product Type	Recombinant Antibody
Immunogen Species	Homo sapiens (Human)
Research Area	Cancer?Cardiovascular;Tags & Cell Markers;Metabolism;Signal transduction
Gene Names	CAV1
Clone No.	2A7

Image



Western Blot
Positive WB detected in: THP-1 whole cell lysate
All lanes: Caveolin-1 antibody at 1:1000
Secondary
Goat polyclonal to rabbit IgG at 1/50000 dilution
Predicted band size: 20 kDa
Observed band size: 20 kDa



Overlay Peak curve showing Hela cells stained with CSB-RA228590A0HU (red line) at 1:50. The cells were fixed in 4% formaldehyde and permeated by 0.2% TritonX-100. Then 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (1μg/1*10^{6}cells) for 45min at 4?. The secondary antibody used was FITC-conjugated Goat Anti-rabbit IgG(H+L) at 1:200 dilution for 35min at 4?.Control antibody (green line) was rabbit IgG (1μg/1*10^{6}cells) used under the same conditions. Acquisition of >10,000 events was performed.

Description

CUSABIO's strategy for generating a recombinant monoclonal antibody targeting CAV1 commenced with the immunization of a rabbit using a synthesized peptide from human CAV1. B cells were subsequently isolated from the immunized rabbit, and RNA was extracted from these cells. The extracted RNA was reverse-transcribed into cDNA, which was employed as a template to extend CAV1 antibody genes using degenerate primers. These extended CAV1 antibody genes were then introduced into a plasmid vector and transfected into host cells for expression. The CAV1 recombinant monoclonal antibody was purified from the cell culture supernatant through affinity chromatography and subjected to ELISA, WB, and FC applications. It displays specific reactivity with human CAV1 protein.

CAV1 is a structural protein that oligomerizes to form caveolin complexes, which are essential for shaping and stabilizing caveolae on the cell membrane. Caveolae and CAV1 are implicated in lipid transport and metabolism, particularly in regulating lipid droplet formation, lipid uptake, and cholesterol trafficking. CAV1 has been associated with various cellular responses to stress, including oxidative stress, mechanical stress, and cellular damage. It can play a protective role in some instances.