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# ProductInformation

**Anti-Caveolin-2**
produced in rabbit, affinity isolated antibody

Catalog Number **C9992**

## Product Description

Anti-Caveolin-2 is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acids 1-20 located at the N-terminus of mouse caveolin-2 (GeneID: 12390), conjugated to KLH. This sequence is identical in rat caveolin-2, highly conserved (90% identity) in human, dog, and pig caveolin-2 and is not found in caveolin-1 and caveolin-3. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Caveolin-2 recognizes caveolin-2 by immunoblotting, ~20 kDa. Staining of the caveolin-2 band is specifically inhibited by the immunizing peptide.

Caveolae are cholesterol/sphingolipid-rich, flask-shaped microdomains of the inner side of the plasma membrane with a diameter of 50-100 nm.[1, 2] Caveolae may play an important role in numerous essential cellular functions, including signaling, transport, lipid metabolism, cellular growth control and tumor suppression.[3-5] Caveolae are present in many cell types, and are most abundant in endothelial cells, fibroblasts, smooth muscle cells and adipocytes.[3, 4] Caveolin (also termed VP21), a 20-24 kDa integral transmembrane protein, has been identified as a principal component of caveolae membranes. Caveolin was first identified as a major v-Src substrate in Rous sarcoma virus-transformed cells.[6] Caveolin exists in several isoforms, caveolin-1, caveolin-2, and caveolin-3. Caveolin-1 and -2 (20-22 kDa) are the two major coat proteins found in caveolae of most cell types. Caveolin-1 and -2 exist as two isoforms α and -β due to alternative splicing of the respective mRNAs. Caveolin-2α corresponds to the full-length protein (20 kDa, 162 amino acids), whereas caveolin-2β isoform lacks a 13 amino acid sequence at its N-terminus. Caveolin-1 and -2 have similar tissue distribution. Caveolin-2 colocalizes with caveolin-1 and forms a hetero-oligomeric complex with caveolin-1 *in vivo*.[7] In contrast, caveolin-3 is a distinct isoform that is restricted to smooth, skeletal and cardiac muscle.[8] It has been proposed that caveolins family members function as scaffolding proteins to organize and concentrate specific lipids such as cholesterol and glycosylphosphatidylinositol (GPI) and lipid modified signaling molecules within caveolae membranes.[5, 9-10] Caveolin can simultaneously recognize GPI-linked proteins and interact directly with a number of caveolae-associated downstream signaling molecules, such as H-Ras, heterotrimeric G-proteins, annexin-II, EGF receptor, protein kinase C, src-family tyrosine kinases, and nitric oxide synthase (NOS).[5, 11-12] Caveolin-2 is phosphorylated on $Ser^{23}$ and $Ser^{36}$ and modulates caveolin-1-dependent caveola formation.[13]

## Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~1 mg/mL

## Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

## Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

## Product Profile

Immunoblotting: a working concentration of 1-2 µg/mL is recommended using a whole extract of mouse 3T3-l1 adipocytes.

Immunoblotting: a working concentration of 1-2 µg/mL is recommended using a whole extract of rat kidney NRK cell line.

**Note**: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

**References**


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