Revision 4

#3251 Store at -20C

Phospho-Caveolin-1 (Tyr14) Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H M R Mk	Endogenous	23, 25	Rabbit	#Q03135	857

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity / Sensitivity

Phospho-Caveolin-1 (Tyr14) Antibody detects endogenous levels of caveolin-1 only when phosphorylated at tyrosine 14. The antibody does not cross-react with paxillin, caveolin-2, -3 or caveolin-1beta, the short isoform of caveolin-1.

Species predicted to react based on 100% sequence homology:

Dog

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr14 of human caveolin-1. Antibodies are purified by protein A and peptide affinity chromatography.

Background

The 21-24 kDa integral proteins, caveolins, are the principal structural components of the cholesterol/sphingolipid-enriched plasma membrane microdomain caveolae. Three members of the caveolin family (caveolin-1, -2, and -3) have been identified with different tissue distributions. Caveolins form hetero- and homo-oligomers that interact with cholesterol and other lipids (1). Caveolins are involved in diverse biological functions, including vesicular trafficking, cholesterol homeostasis, cell adhesion, and apoptosis, and are also implicated in neurodegenerative disease (2). Caveolins interact with multiple signaling molecules, such as Gα subunit, tyrosine kinase receptors, PKCs, Src family tyrosine kinases, and eNOS (1,2). It is believed that caveolins serve as scaffolding proteins for the integration of signal transduction. Phosphorylation at Tyr14 is essential for caveolin association with SH2 or PTB domain-containing adaptor proteins, such as GRB7 (3-5). Phosphorylation at Ser80 regulates caveolin binding to the ER membrane and entry into the secretory pathway (6).

Background References

1. Okamoto, T. et al. (1998) *J Biol Chem* 273, 5419-22.
2. Smart, E.J. et al. (1999) *Mol Cell Biol* 19, 7289-304.
3. Nomura, R. et al. (1999) *Mol. Biol. Cell* 10, 975-986.
4. Volonte, D. et al. (2001) *J. Biol. Chem.* 276, 8094-8103.
5. Lee, H. et al. (2000) *Mol Endocrinol* 14, 1750-75.
6. Schlegel, A. et al. (2001) *J Biol Chem* 276, 4398-408.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster **X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse **GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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