

#3251 Store at -20°C

# Phospho-Caveolin-1 (Tyr14) Antibody

✓ 100 µl (10 western blots)



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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Entrez-Gene ID #857  
Swiss-Prot Acc. #Q03135

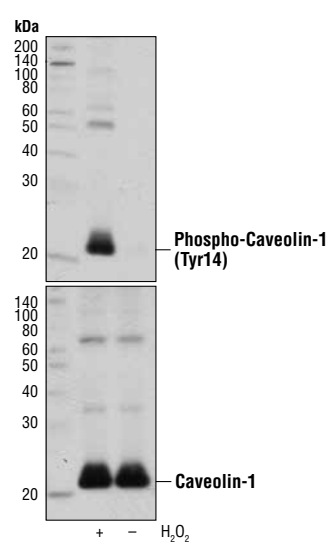
Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W Endogenous	H, M, R, Mk, (Dg)	23, 25 kDa	Rabbit**

**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 caveolins family (caveolin-1, -2 and -3) have been identified with different tissue distributions. Caveolins form hetero- and homooligomers, which 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 also interact with multiple signaling molecules, such as G-α 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).

**Specificity/Sensitivity:** Phospho-Caveolin-1 (Tyr14) Antibody detects endogenous levels of caveolin-1 only when phosphorylated at Tyr14. The antibody does not cross-react with caveolin-2, -3 or caveolin-1β, the short isoform of caveolin-1.

**Source/Purification:** Polyclonal antibodies are produced by immunizing rabbits with a synthetic phospho-peptide (KLH-coupled) corresponding to residues surrounding Tyr14 of human caveolin-1. Antibodies are purified by protein A and peptide affinity chromatography.

- Background References:**
- (1) Okamoto, T. et al. (1998) *J. Biol. Chem.* 273, 5419-5422.
  - (2) Smart, E.J. et al. (1999) *Mol. Cell. Biol.* 19, 7289-7304.
  - (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, 1750-1775.
  - (6) Schlegel, A. et al. (2001) *J. Biol. Chem.* 276, 4398-4408.



Western blot analysis of extracts from HeLa cells, untreated (-) or H2O2-treated (+), using Phospho-Caveolin-1 (Tyr14) Antibody (upper) and Caveolin-1 (D46G3) XP® Rabbit mAb #3267 (lower).

**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.

\*Species cross-reactivity is determined by western blot.  
\*\*Anti-rabbit secondary antibodies must be used to detect this antibody.

**Recommended Antibody Dilutions:**  
Western Blotting 1:1000

For application specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).

Please visit [www.cellsignal.com](http://www.cellsignal.com) for a complete listing of recommended companion products.

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

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**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide  
**Species Cross-Reactivity Key:** H—human M—mouse R—rat Hm—hamster Mk—monkey 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 All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.