

# p-Vimentin (Ser 38): sc-16673

## BACKGROUND

Phosphorylation of Vimentin induces disassembly of Vimentin intermediate filaments *in vivo* and *in vitro*. Binding of 14-3-3 depends on Vimentin phosphorylation and requires the phosphopeptide binding domain of 14-3-3, which is an amino terminal head domain consisting of amino acids 1-96. Phosphorylated Vimentin sequesters 14-3-3 and limits its availability to other target proteins, which can affect intracellular signaling processes that require 14-3-3. The amino-terminal domain of Vimentin is the target site for several protein kinases, including Rho kinase and PKC. Ser 38 and Ser 71 of Vimentin are the major sites of phosphorylation by Rho kinase. The disruption of subcellular compartmentalization of interphase cells leads to PKC-mediated phosphorylation of Vimentin. Thus, targeting of activated PKC, coupled with the reorganization of intracellular membranes, which contain phospholipids essential for activation, leads to the mitosis-specific phosphorylation of Vimentin.

## CHROMOSOMAL LOCATION

Genetic locus: VIM (human) mapping to 10p13; Vim (mouse) mapping to 2 A1.

## SOURCE

p-Vimentin (Ser 38) is available as either goat (sc-16673) or rabbit (sc-16673-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Ser 38 phosphorylated Vimentin of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-16673 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

p-Vimentin (Ser 38) is recommended for detection of Ser 38 phosphorylated Vimentin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-Vimentin (Ser 38) is also recommended for detection of correspondingly phosphorylated Vimentin in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Vimentin siRNA (h): sc-29522, Vimentin siRNA (m): sc-29523, Vimentin shRNA Plasmid (h): sc-29522-SH, Vimentin shRNA Plasmid (m): sc-29523-SH, Vimentin shRNA (h) Lentiviral Particles: sc-29522-V and Vimentin shRNA (m) Lentiviral Particles: sc-29523-V.

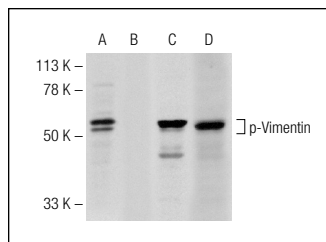
Molecular Weight of p-Vimentin: 57 kDa.

Positive Controls: HeLa + Calyculin A cell lysate: sc-2271.

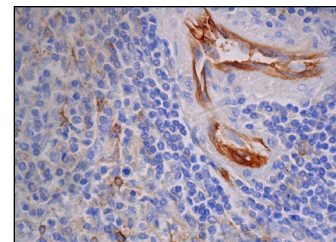
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: for goat primary antibody (sc-16673): use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), for rabbit primary antibody (sc-16673-R): use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunofluorescence: for goat primary antibody (sc-16673): use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941, for rabbit primary antibody (sc-16673-R): use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



Western blot analysis of Vimentin phosphorylation in untreated (A,C) and lambda protein phosphatase (sc-200312A) treated (B,D) SJRH30 whole cell lysate. Antibodies tested include p-Vimentin (Ser 38)-R: sc-16673-R (A,B) and Vimentin (C-20)-R: sc-7557-R (C,D).



p-Vimentin (Ser 38)-R: sc-16673-R. Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing membrane and cytoplasmic staining of endothelial cells.

## SELECT PRODUCT CITATIONS

- Daily, A., et al. 2010. Abrogation of microcystin cytotoxicity by MAP kinase inhibitors and N-acetyl cysteine is confounded by OATPIB1 uptake activity inhibition. *Toxicon* 55: 827-837.
- Cogli, L., et al. 2013. Vimentin phosphorylation and assembly are regulated by the small GTPase Rab7a. *Biochim. Biophys. Acta* 1833: 1283-1293.
- Sarmishtha, C., et al. 2013. Regulation of autophagy in rat hepatocytes treated *in vitro* with low concentration of mercury. *Toxicol. Environ. Chem.* 95: 504-514.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.