#12569 Store at -20°C

Phospho-Vimentin (Ser83) (D5A2D) Rabbit mAb

☑ 100 µl
(10 western blots)

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Entrez-Gene ID #7431
UniProt ID #P08670

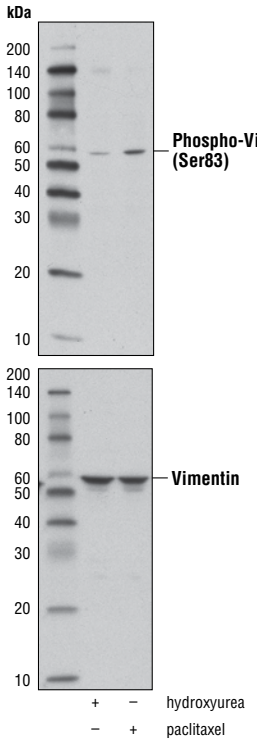
Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IF-IC, F Endogenous	H, (M, R)	57 kDa	Rabbit IgG**

Background: The cytoskeleton consists of three types of cytosolic fibers: microfilaments (actin filaments), intermediate filaments, and microtubules. Major types of intermediate filaments are distinguished by their cell-specific expression: cytokeratins (epithelial cells), glial fibrillary acidic protein (GFAP) (glial cells), desmin (skeletal, visceral, and certain vascular smooth muscle cells), vimentin (mesenchyme origin), and neurofilaments (neurons). GFAP and vimentin form intermediate filaments in astroglial cells and modulate their motility and shape (1). In particular, vimentin filaments are present at early developmental stages, while GFAP filaments are characteristic of differentiated and mature brain astrocytes. Thus, GFAP is commonly used as a marker for intracranial and intraspinal tumors arising from astrocytes (2). Research studies have shown that vimentin is present in sarcomas, but not carcinomas, and its expression is examined in conjunction with that of other markers to distinguish between the two (3). Vimentin's dynamic structural changes and spatial re-organization in response to extracellular stimuli help to coordinate various signaling pathways (4). Phosphorylation of vimentin at Ser56 in smooth muscle cells regulates the structural arrangement of vimentin filaments in response to serotonin (5,6). Remodeling of vimentin and other intermediate filaments is important during lymphocyte adhesion and migration through the endothelium (7).

CDK1 phosphorylates vimentin at Ser56 during mitosis, providing a PLK binding site for vimentin-PLK interaction. PLK further phosphorylates vimentin at Ser83, which might serve as a memory phosphorylation site and play a regulatory role in vimentin filament disassembly (8,9).

Specificity/Sensitivity: Phospho-Vimentin (Ser83) (D5A2D) Rabbit mAb recognizes endogenous levels of Vimentin protein only when phosphorylated at Ser83.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser83 of human vimentin protein.



Western blot analysis of extracts from HeLa cells, untreated (-), treated with either hydroxyurea (4 mM, G1/S arrested; +), or Paclitaxel #9807 (100 nM, G2/M arrested; +) for 20 hr, using Phospho-Vimentin (Ser83) (D5A2D) Rabbit mAb (upper) and Vimentin (D21H3) XP® Rabbit mAb #5741 (lower).

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. 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
Immunofluorescence (IF-IC)	1:100
Flow Cytometry	1:200

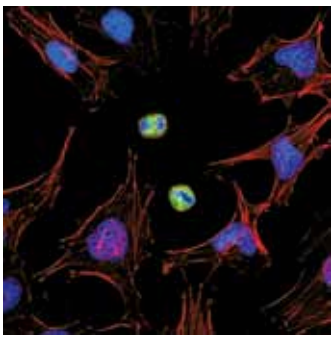
For product specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

Background References:

(1) Eng, L.F. et al. (2000) *Neurochem. Res.* 25, 1439-1451.
(2) Goebel, H.H. et al. (1987) *Acta Histochem. Suppl.* 34, 81-93.
(3) Leader, M. et al. (1987) *Histopathology* 11, 63-72.
(4) Helfand, B.T. et al. (2004) *J. Cell Sci.* 117, 133-141.
(5) Tang, D.D. et al. (2005) *Biochem. J.* 388, 773-783.
(6) Fomina, I.G. et al. (1990) *Klin. Med. (Mosk.)* 68, 125-127.
(7) Nieminen, M. et al. (2006) *Nat. Cell Biol.* 8, 156-162.
(8) Yamaguchi, T. et al. (2005) *J Cell Biol* 171, 431-6.
(9) Oguri, T. et al. (2006) *Genes Cells* 11, 531-40.

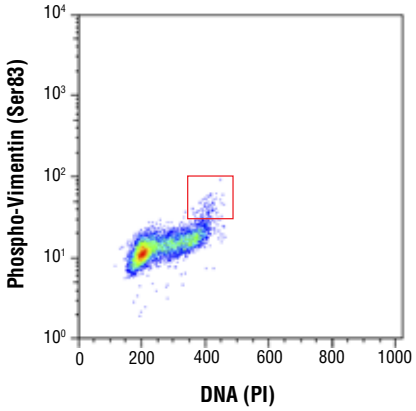
HeLa



Confocal immunofluorescent analysis of HeLa cells using Phospho-Vimentin (Ser83) (D5A2D) Rabbit mAb (green). Actin filaments were labeled with DyLight™ 554 Phalloidin #13054 (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

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.

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.



Flow cytometric analysis of untreated Jurkat cells, using Phospho-Vimentin (Ser83) (D5A2D) Rabbit mAb and Propidium Iodide (PI)/RNase Staining Solution #4087 (DNA content). Anti-rabbit IgG (H+L), F(ab')$_2$ Fragment (Alexa Fluor® 488 Conjugate) #4412 was used as a secondary antibody.