

## Product Information

### Anti-phospho-VASP [pSer<sup>239</sup>]

produced in rabbit, affinity isolated antibody

Catalog Number **SAB4200555**

#### Product Description

Anti-phospho-VASP [pSer<sup>239</sup>] is produced in rabbit using as immunogen a synthetic peptide containing phosphorylated Ser<sup>239</sup> of human VASP (GeneID 7408) conjugated to KLH. The corresponding sequence is identical in mouse and rat VASP. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-phospho-VASP [pSer<sup>239</sup>] specifically recognizes human, rat, mouse and dog VASP phosphorylated at Ser<sup>239</sup>. The antibody may be used in various immunochemical techniques including immunoblotting (~50 kDa) and immunofluorescence. Staining of the VASP band by immunoblotting is specifically inhibited by the phospho-VASP [pSer<sup>239</sup>] immunizing peptide, but not by the corresponding non-phosphorylated VASP peptide.

VASP (vasodilator-stimulated phosphoprotein) belongs to the family of Ena/VASP actin-regulatory proteins that are implicated in cell motility and adhesion.<sup>1-3</sup> VASP is localized at highly dynamic membrane regions, focal adhesion sites, lamellipodia protrusions, filopodia tips and along stress fibers. VASP is also localized at cell-matrix and cell-cell contacts and plays an important role in adherens junction formation and stabilization in epithelial cells. VASP is a substrate for cAMP- and cGMP-dependent protein kinases. It is phosphorylated at multiple sites including Ser<sup>157</sup>, Ser<sup>239</sup> and Thr<sup>278</sup>.<sup>4</sup> cGMP-dependent protein kinase I (cGKI) phosphorylates VASP in a variety of cells, including platelets, fibroblasts and endothelial cells. In platelets, cGMP-mediated phosphorylation of VASP correlates with inhibition of agonist-induced platelet aggregation.<sup>5</sup> Ena/VASP proteins are required for neurite initiation and extension in the developing cortex.<sup>6</sup> VASP has been shown to be required for endothelial barrier function *in vivo*. Knockout of Ena/VASP proteins in mice leads to increased endothelial permeability causing fatal vascular leakage and hemorrhaging during late embryonic development.<sup>7</sup> In contrast, over-expression of VASP enhances barrier function of endothelial cells *in vitro* and increases their force generation.

#### Reagent

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

Antibody Concentration: ~1.0 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 HEK-293T, NIH-3T3 and Rat2 cell extracts.

**Immunofluorescence:** a working concentration of 1-2 µg/mL is recommended using MDCK cells.

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

#### References

1. Haffner, C., et al., *EMBO J.*, **14**, 19-27 (1995).
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3. Trichet, L., et al., *J. Cell Biol.*, **181**, 19-25 (2008).
4. Butt, E., et al., *J. Biol. Chem.*, **269**, 14509-14517 (1994).
5. Aszodi, A., et al., *EMBO J.*, **18**, 37-48 (1999).
6. Kwiatkowski, A.V., et al., *Neuron*, **56**, 441-455 (2007).
7. Furman, C., et al., *J. Cell Biol.*, **179**, 761-775 (2007).

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