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Product Information

Anti-phospho-WAVE-1 (pSer^{397})
produced in rabbit, affinity isolated antibody

Product Number **W2768**

Product Description

Anti-phospho-WAVE-1 (pSer^{397}) is developed in rabbit using as immunogen a synthetic phosphopeptide corresponding to a fragment (pSer^{397}) of human WAVE-1 (GeneID: 8936), conjugated to KLH. The corresponding sequence is identical in mouse and rat WAVE-1. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-phospho-WAVE-1 (pSer^{397}) specifically recognizes mouse phospho-WAVE-1 (pSer^{397}) (not yet tested in other species). Applications include the detection of phospho-WAVE-1 (pSer^{397}) by immunoblotting (~75 kDa). Detection of the phospho-WAVE-1 band by immunoblotting is specifically inhibited by the phospho-WAVE-1 immunizing peptide and is not inhibited by the non-phosphorylated WAVE-1 peptide.

WAVE proteins (also termed SCAR and WASF), belong to the WASP (Wiskott-Aldrich syndrome protein) family and play key roles in the induction of various actin remodeling processes including membrane ruffling and lamellipodia formation. WAVE proteins include three isoforms: WAVE-1, WAVE-2, and WAVE-3.[1,2] Expression of WAVE-1 and WAVE-3 isoforms is restricted to the brain, while WAVE-2 is ubiquitously expressed.[3] WAVE proteins are thought to mediate Rac activity indirectly via the target protein IRSp53 or by binding to a macromolecular complex that includes PIR121, Nap1, Abi, and HSPC300 proteins.[4-6] Phosphorylation of WAVE has been shown to occur at multiple sites on the protein and is thought to play a central role in regulating actin polymerization. WAVE is hyperphosphorylated downstream of MAPK and is required in the formation of membrane ruffles and oncogenic transformation.[7] Phosphorylation of WAVE-1 by Cdk5 at Ser^{310}, Ser^{397}, and Ser^{441} regulates actin polymerization and dendritic spine morphology.[8]

Reagent

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

Antibody Concentration: ~1.5 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the 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 is not recommended. Storage in "frost-free" freezers is also 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 antibody concentration of 1–2 μg/mL is recommended using mouse brain extract (S1 fraction).

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

1. Miki, H. et al., *EMBO J.*, **17**, 6932-6941 (1998).
2. Machesky, L.M. et al., *Proc. Natl. Acad. Sci. USA.*, **96**, 3739-3744 (1999).
3. Soderling, S.H. et al., *Proc. Natl. Acad. Sci. USA.*, **100**, 1723-1728 (2003).
4. Eden, S. et al., *Nature*, **418**, 790-793 (2002).
5. Miki, H. et al., *Nature*, **408**, 732-735 (2000).
6. Innocenti, M. et al., *Nature Cell Biol.*, **6**, 319-327 (2004).
7. Miki, H. et al., *J. Biol. Chem.*, **274**, 27605-27609 (1999).
8. Kim, Y. et al., *Nature*, **442**, 814-817 (2006).

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