

Product Information

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Anti-WAVE-3

produced in rabbit, affinity isolated antibody

Product Number **W4642**

Product Description

Anti-WAVE-3 is produced in rabbit using as the immunogen a synthetic peptide corresponding to a fragment of human WAVE-3 (GeneID: 10810), conjugated to KLH. This sequence is identical in rat WAVE-3 and highly conserved in mouse WAVE-3 (single amino acid substitution), and not found in other WAVE isoforms. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-WAVE-3 specifically recognizes WAVE-3 by immunoblotting (~70 kDa) and indirect immunofluorescence. Staining of the WAVE-3 band in immunoblotting is specifically inhibited by the WAVE-3 immunizing peptide.

Actin dynamics play a central role in cellular function. Reorganization of the actin cytoskeleton via actin polymerization and depolymerization is required for diverse cellular processes, including cell morphology, cytokinesis, cell adhesion, and motility. These processes are regulated by the Rho family of small GTPases, Cdc42 and Rac, as well as the WASP (Wiskott-Aldrich syndrome protein) and Ena/VASP-family of proteins.¹⁻² The WASP family members include WASP, N-WASP, and WAVE (WASP-family verprolin homologous protein) proteins. WAVE proteins also play key roles in the induction of various actin remodeling processes including membrane ruffling and lamellipodia formation. WAVE proteins (also termed SCAR, WASF proteins), include three isoforms WAVE-1, WAVE-2, and WAVE-3.³⁻⁶ Expression of WAVE-1 and WAVE-3 isoforms is restricted to the brain, while WAVE-2 is ubiquitously expressed. WAVE proteins bind to phosphatidylinositol-3,4,5 triphosphate (PI-3,4,5P₃) formed by PI3-kinase, thus facilitating WAVE translocation to the plasma membrane. 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.⁷⁻⁹ This complex appears to regulate WAVE activity and the interaction of the WAVE-Arp2/3 complex with F-actin in order to induce actin polymerization.

Reagent

Supplied as a solution in 0.01 M PBS, 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, or storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 1.25-2.5 µg/mL is recommended using HEK293T cells lysate.

Immunofluorescence: a working concentration of 7.5-15 µg/mL is recommended using SH-SY5Y cells.

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

References

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VS,ER,KAA,PHC,MAM 04/19-1