

WAVE1 (E-2): sc-271507

BACKGROUND

WASP (for Wiskott-Aldrich syndrome protein) and N-WASP are downstream effectors of Cdc42 that are implicated in Actin polymerization and cytoskeletal organization. The WASP family also includes VASP (vasodilator-stimulated phosphoprotein) and Mena (for mammalian enabled protein), which accumulate at focal adhesions and are also involved in the regulation of the Actin cytoskeleton. The WAVE proteins are related to the WASP family proteins and are likewise involved in mediating Actin reorganization downstream of the Rho family of small GTPases. The protein homologs WAVE1 and WAVE2 regulate membrane ruffling by inducing the formation of Actin filament clusters in response to GTP binding and by activating Rac. They mediate Actin polymerization by cooperating with the Arp2/3 complex, thereby promoting the formation of Actin filaments. WAVE1, which is also designated SCAR (suppressor of cAR), is expressed primarily in the brain, while WAVE2 is widely expressed, with the expression highest in peripheral blood leukocytes. WAVE3 forms a multiprotein complex that links receptor kinases with Actin and plays a role in the transduction of signals involving changes in cell shape, function or motility.

CHROMOSOMAL LOCATION

Genetic locus: WASF1 (human) mapping to 6q21; Wasf1 (mouse) mapping to 10 B1.

SOURCE

WAVE1 (E-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 179-210 near the N-terminus of WAVE1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

WAVE1 (E-2) is available conjugated to agarose (sc-271507 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271507 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271507 PE), fluorescein (sc-271507 FITC), Alexa Fluor® 488 (sc-271507 AF488), Alexa Fluor® 546 (sc-271507 AF546), Alexa Fluor® 594 (sc-271507 AF594) or Alexa Fluor® 647 (sc-271507 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271507 AF680) or Alexa Fluor® 790 (sc-271507 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271507 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

WAVE1 (E-2) is recommended for detection of WAVE1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

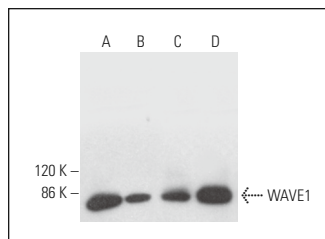
WAVE1 (E-2) is also recommended for detection of WAVE1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for WAVE1 siRNA (h): sc-36831, WAVE1 siRNA (m): sc-36832, WAVE1 shRNA Plasmid (h): sc-36831-SH, WAVE1 shRNA Plasmid (m): sc-36832-SH, WAVE1 shRNA (h) Lentiviral Particles: sc-36831-V and WAVE1 shRNA (m) Lentiviral Particles: sc-36832-V.

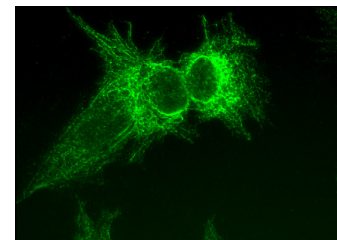
Molecular Weight of WAVE1: 84 kDa.

Positive Controls: rat brain extract: sc-2392, mouse brain extract: sc-2253 or rat hippocampus tissue extract.

DATA



WAVE1 (E-2): sc-271507. Western blot analysis of WAVE1 expression in mouse brain (A), rat brain (B), human cerebral cortex (C) and rat hippocampus (D) tissue extracts. Detection reagent used: m-IgGκ-BP-HRP: sc-516102.



WAVE1 (E-2): sc-271507. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoskeletal localization.

SELECT PRODUCT CITATIONS

1. Vassilev, V., et al. 2017. Catenins steer cell migration via stabilization of front-rear polarity. *Dev. Cell* 43: 463-479.e5.
2. Moore, A.S., et al. 2021. Actin cables and comet tails organize mitochondrial networks in mitosis. *Nature* 591: 659-664.
3. Esparza-Moltó, P.B., et al. 2021. Generation of mitochondrial reactive oxygen species is controlled by ATPase inhibitory factor 1 and regulates cognition. *PLoS Biol.* 19: e3001252.
4. Sherpa, R.T., et al. 2021. Mitochondrial A-kinase anchoring proteins in cardiac ventricular myocytes. *Physiol. Rep.* 9: e15015.

RESEARCH USE

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