

WAVE2 (D-12): sc-515730

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.

REFERENCES

1. Symons, M., et al. 1996. Wiskott-Aldrich syndrome protein, a novel effector for the GTPase CDC42Hs, is implicated in actin polymerization. *Cell* 84: 723-734.
2. Miki, H., et al. 1998. WAVE, a novel WASP-family protein involved in actin reorganization induced by Rac. *EMBO J.* 17: 6932-6941.
3. Machesky, L.M. and Insall, R.H. 1998. Scar1 and the related Wiskott-Aldrich syndrome protein, WASP, regulate the actin cytoskeleton through the Arp2/3 complex. *Curr. Biol.* 8: 1347-1356.
4. Bear, J.E., et al. 1998. SCAR, a WASP-related protein, isolated as a suppressor of receptor defects in late Dictyostelium development. *J. Cell Biol.* 142: 1325-1335.
5. Rohatgi, R., et al. 1999. The interaction between N-WASP and the Arp2/3 complex links Cdc42-dependent signals to actin assembly. *Cell* 97: 221-231.
6. Prehoda, K.E., et al. 1999. Structure of the enabled/VASP homology 1 domain-peptide complex: a key component in the spatial control of actin assembly. *Cell* 97: 471-480.
7. Machesky, L.M., et al. 1999. Scar, a WASP-related protein, activates nucleation of actin filaments by the Arp2/3 complex. *Proc. Natl. Acad. Sci. USA* 96: 3739-3744.
8. Suetsugu, S., et al. 1999. Identification of two human WAVE/SCAR homologues as general actin regulatory molecules which associate with the Arp2/3 complex. *Biochem Biophys. Res. Commun.* 260: 296-302.

CHROMOSOMAL LOCATION

Genetic locus: WASF2 (human) mapping to 1p36.11.

SOURCE

WAVE2 (D-12) is a mouse monoclonal antibody raised against amino acids 206-315 mapping within an internal region of WAVE2 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.

APPLICATIONS

WAVE2 (D-12) is recommended for detection of WAVE2 of 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).

Suitable for use as control antibody for WAVE2 siRNA (h): sc-36833, WAVE2 shRNA Plasmid (h): sc-36833-SH and WAVE2 shRNA (h) Lentiviral Particles: sc-36833-V.

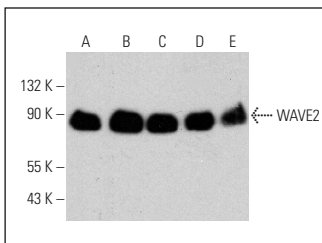
Molecular Weight of WAVE2: 84 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or CCRF-CEM cell lysate: sc-2225.

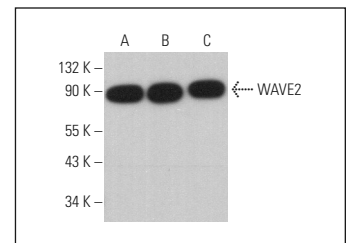
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



WAVE2 (D-12): sc-515730. Western blot analysis of WAVE2 expression in MOLT-4 (A), CCRF-CEM (B), AML-193 (C), K-562 (D) and HeLa (E) whole cell lysates.



WAVE2 (D-12): sc-515730. Western blot analysis of WAVE2 expression in K-562 (A), Jurkat (B) and MDA-MB-231 (C) whole cell lysates.

STORAGE

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

RESEARCH USE

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