

N-WASP (C-1): sc-271484

BACKGROUND

The Wiskott-Aldrich syndrome (WAS) is characterized by thrombocytopenia, eczema, defects in cell-mediated and humoral immunity, and a propensity for lymphoproliferative diseases. The syndrome is the result of a mutation in the gene encoding a proline-rich protein termed WASP. WASP and the related protein neural-WASP (or N-WASP) are downstream effectors of Cdc42. Both WASP and N-WASP are implicated in Actin polymerization and cytoskeletal organization, and N-WASP is also essential for mediating the Cdc42-induced formation of filopodia. WASP is primarily expressed in hematopoietic cells, whereas N-WASP is richest in neural tissues and is also expressed ubiquitously. The effects of Cdc42-stimulated Actin assembly require the interaction of WASP/N-WASP with the Arp2/3 complex, which dramatically enhances polymerization. The WASP and N-WASP proteins characteristically contain a pleckstrin homology (PH) domain, which binds phosphatidylinositol bisphosphate (PIP2); a Cdc42-binding domain; and a 70 amino acid conserved verprolin-homology (VPH) domain, which is the Actin-binding region and is critical to the regulation of the Actin cytoskeleton.

REFERENCES

1. Remold-O'Donnell, E., et al. 1996. Defects in Wiskott-Aldrich syndrome blood cells. *Blood* 87: 2621-2631.
2. Stewart, D.M., et al. 1996. Studies of the expression of the Wiskott-Aldrich syndrome protein. *J. Clin. Invest.* 97: 2627-2634.
3. 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.

CHROMOSOMAL LOCATION

Genetic locus: WASL (human) mapping to 7q31.32; Wasl (mouse) mapping to 6 A3.1.

SOURCE

N-WASP (C-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 18-49 near the N-terminus of N-WASP 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.

N-WASP (C-1) is available conjugated to agarose (sc-271484 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271484 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271484 PE), fluorescein (sc-271484 FITC), Alexa Fluor® 488 (sc-271484 AF488), Alexa Fluor® 546 (sc-271484 AF546), Alexa Fluor® 594 (sc-271484 AF594) or Alexa Fluor® 647 (sc-271484 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271484 AF680) or Alexa Fluor® 790 (sc-271484 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271484 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

N-WASP (C-1) is recommended for detection of N-WASP 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

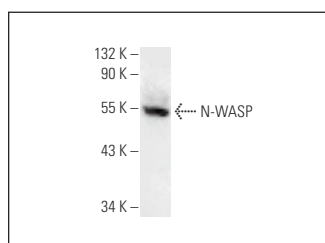
N-WASP (C-1) is also recommended for detection of N-WASP in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for N-WASP siRNA (h): sc-36006, N-WASP siRNA (m): sc-36007, N-WASP shRNA Plasmid (h): sc-36006-SH, N-WASP shRNA Plasmid (m): sc-36007-SH, N-WASP shRNA (h) Lentiviral Particles: sc-36006-V and N-WASP shRNA (m) Lentiviral Particles: sc-36007-V.

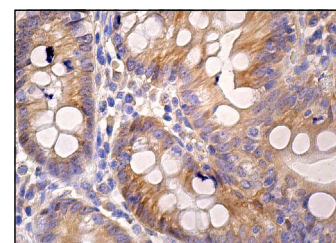
Molecular Weight of N-WASP: 65 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812, IMR-32 cell lysate: sc-2409 or rat brain extract: sc-2392.

DATA



N-WASP (C-1): sc-271484. Western blot analysis of N-WASP expression in SH-SY5Y whole cell lysate.



N-WASP (C-1): sc-271484. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Liu, C., et al. 2013. N-WASP is essential for the negative regulation of B cell receptor signaling. *PLoS Biol.* 11: e1001704.
2. Jones, D., et al. 2023. Repurposing FDA-approved drugs as inhibitors of therapy-induced invadopodia activity in glioblastoma cells. *Mol. Cell. Biochem.* 478: 1251-1267.
3. Scott, S.A., et al. 2023. Dopamine receptor D2 confers colonization resistance via gut microbial metabolites. *bioRxiv*. E-published.

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.

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