SANTA CRUZ BIOTECHNOLOGY, INC.

WASP (D-1): sc-5300

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Wiskott-Aldrich syndrome (WAS) is a disorder that results from a monogenic defect that has been mapped to the short arm of the X chromosome. WAS is characterized by thrombocytopenia, eczema, defects in cell-mediated and humoral immunity and a propensity for lymphoproliferative disease. The gene that is mutated in the syndrome encodes a proline-rich protein of unknown function designated WAS protein (WASP). A clue to WASP function came from the observation that T cells from affected males had an irregular cellular morphology and a disarrayed cytoskeleton, suggesting the involvement of WASP in cytoskeletal organization. Close examination of the WASP sequence revealed a putative Cdc42/Rac interacting domain, homologous with those found in PAK65 and ACK. Subsequent investigation has shown WASP to be a true downstream effector of Cdc42.

CHROMOSOMAL LOCATION

Genetic locus: WAS (human) mapping to Xp11.23.

SOURCE

WASP (D-1) is a mouse monoclonal antibody raised against amino acids 1-250 of WASP of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

WASP (D-1) is available conjugated to agarose (sc-5300 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-5300 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-5300 PE), fluorescein (sc-5300 FITC), Alexa Fluor® 488 (sc-5300 AF488), Alexa Fluor® 546 (sc-5300 AF546), Alexa Fluor® 594 (sc-5300 AF594) or Alexa Fluor® 647 (sc-5300 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-5300 AF680) or Alexa Fluor® 790 (sc-5300 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

WASP (D-1) is recommended for detection of WASP of human origin by Western Blotting (starting dilution 1:200, 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), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for WASP siRNA (h): sc-29525, WASP shRNA Plasmid (h): sc-29525-SH and WASP shRNA (h) Lentiviral Particles: sc-29525-V.

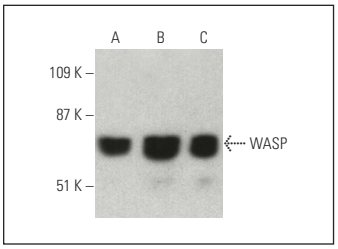
Molecular Weight of WASP: 66 kDa.

Positive Controls: Ramos cell lysate: sc-2216, MOLT-4 cell lysate: sc-2233 or BJAB whole cell lysate: sc-2207.

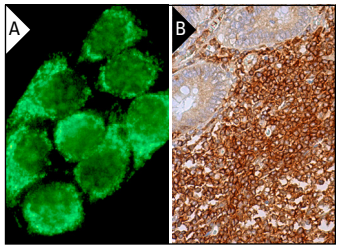
STORAGE

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

DATA



WASP (D-1) HRP: sc-5300 HRP. Direct western blot analysis of WASP expression in MOLT-4 (**A**), BJAB (**B**) and Ramos (**C**) whole cell lysates.



WASP (D-1) Alexa Fluor® 488: sc-5300 AF488. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). WASP (D-1): sc-5300. Immunoperoxi-dase staining of formalin fixed, paraffin-embedded human appendix tissue showing cytoplasmic and membrane staining of lymphoid cells (**B**).

SELECT PRODUCT CITATIONS

1. Gismondi, A., et al. 2004. Impaired natural and CD16-mediated NK cell cytotoxicity in patients with WAS and XLT: ability of IL-2 to correct NK cell functional defect. Blood 104: 436-443.
2. Lee, W.I., et al. 2010. Clinical aspects and genetic analysis of taiwanese patients with Wiskott-Aldrich syndrome protein mutation: the first identification of x-linked thrombocytopenia in the chinese with novel mutations. J. Clin. Immunol. 30: 593-601.
3. Avedillo Díez, I., et al. 2011. Development of novel efficient SIN vectors with improved safety features for Wiskott-Aldrich syndrome stem cell based gene therapy. Mol. Pharm. 8: 1525-1537.
4. Reicher, B., et al. 2012. Ubiquitylation-dependent negative regulation of WASP is essential for actin cytoskeleton dynamics. Mol. Cell. Biol. 32: 3153-3163.
5. Chen, Y., et al. 2013. Loss of the F-BAR protein CIP4 reduces platelet production by impairing membrane-cytoskeleton remodeling. Blood 122: 1695-1706.
6. Braun, C.J., et al. 2014. Gene therapy for Wiskott-Aldrich syndrome—long-term efficacy and genotoxicity. Sci. Transl. Med. 6: 227ra33.
7. Toscano, M.G., et al. 2016. Absence of WASP enhances hematopoietic and megakaryocytic differentiation in a human embryonic stem cell model. Mol. Ther. 24: 342-353.
8. Schrank, B.R., et al. 2018. Nuclear ARP2/3 drives DNA break clustering for homology-directed repair. Nature 559: 61-66.

RESEARCH USE

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