

# DAAM1 (WW-3): sc-100942

## BACKGROUND

DAAM1 (dishevelled associated activator of morphogenesis 1) is a 1,078 amino acid member of the formin homology protein family. Localized to the perinuclear cytoplasm and expressed throughout the body, DAAM1 binds to dishevelled (Dvl) and Rho and mediates the Wnt-induced formation of the Dvl-Rho complex. Once complexed to Dvl, Rho becomes activated and can regulate cell polarity, movement and cytoskeletal architecture. Activation of Rho is dependent upon formation of the Dvl-Rho complex. This suggests that DAAM1 (which is required for complex formation) is a critical component of cellular cortex functions. DAAM1 contains several binding domains which allow it to interact with various proteins such as CIP4, FNBP1 and spectrin, thereby helping to coordinate the dynamics of the Actin filament system. Additionally, DAAM1 is thought to act as a scaffolding protein by recruiting Rho-GEF and Rho-GDP, thus enhancing Rho-GTP formation. Three distinct isoforms exist due to alternative splicing events.

## REFERENCES

- Habas, R., et al. 2002. Wnt/Frizzled activation of Rho regulates vertebrate gastrulation and requires a novel formin homology protein DAAM1. *Cell* 107: 843-854.
- Kida, Y., et al. 2004. Identification of chick and mouse Daam1 and Daam2 genes and their expression patterns in the central nervous system. *Brain Res. Dev. Brain Res.* 153: 143-150.

## CHROMOSOMAL LOCATION

Genetic locus: DAAM1 (human) mapping to 14q23.1; Daam1 (mouse) mapping to 12 C3.

## SOURCE

DAAM1 (WW-3) is a mouse monoclonal antibody raised against amino acids 1-111 within an N-terminal region of DAAM1 of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

DAAM1 (WW-3) is recommended for detection of DAAM1 of mouse, rat and 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for DAAM1 siRNA (h): sc-62190, DAAM1 siRNA (m): sc-62191, DAAM1 shRNA Plasmid (h): sc-62190-SH, DAAM1 shRNA Plasmid (m): sc-62191-SH, DAAM1 shRNA (h) Lentiviral Particles: sc-62190-V and DAAM1 shRNA (m) Lentiviral Particles: sc-62191-V.

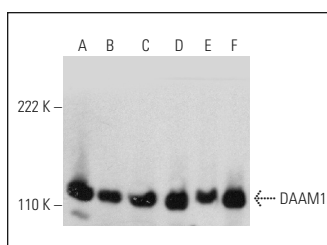
Molecular Weight of DAAM1: 123 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, HeLa whole cell lysate: sc-2200 or DAAM1 (h): 293T Lysate: sc-116973.

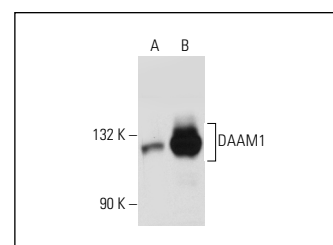
## RECOMMENDED SUPPORT REAGENTS

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).

## DATA



DAAM1 (WW-3): sc-100942. Western blot analysis of DAAM1 expression in A-431 (A), HeLa (B), Hep G2 (C), C2C12 (D) and PC-12 (E) whole cell lysates and mouse brain tissue extract (F).



DAAM1 (WW-3): sc-100942. Western blot analysis of DAAM1 expression in non-transfected: sc-117752 (A) and human DAAM1 transfected: sc-116973 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Yan, T., et al. 2018. Integrin  $\alpha_v\beta_3$ -associated DAAM1 is essential for collagen-induced invadopodia extension and cell haptotaxis in breast cancer cells. *J. Biol. Chem.* 293: 10172-10185.
- Batissoco, A.C., et al. 2018. A cell junctional protein network associated with Connexin-26. *Int. J. Mol. Sci.* 19: 2535.
- Zhang, W., et al. 2018. A global transcriptional network connecting non-coding mutations to changes in tumor gene expression. *Nat. Genet.* 50: 613-620.
- Luo, Y., et al. 2019. Atypical function of a centrosomal module in WNT signalling drives contextual cancer cell motility. *Nat. Commun.* 10: 2356.
- Wu, X., et al. 2019. Wnt5a induces Ror1 and Ror2 to activate RhoA in esophageal squamous cell carcinoma cells. *Cancer Manag. Res.* 11: 2803-2815.
- Dai, B., et al. 2020. Wnt5a/ROR1 activates DAAM1 and promotes the migration in osteosarcoma cells. *Oncol. Rep.* 43: 601-608.
- Kawarazaki, W., et al. 2020. Salt causes aging-associated hypertension via vascular Wnt5a under Klotho deficiency. *J. Clin. Invest.* 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.