SANTA CRUZ BIOTECHNOLOGY, INC.

Cdc42 (B-8): sc-8401

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The superfamily of GTP-binding proteins, for which the Ras proteins are prototypes, has been implicated in regulation of diverse biological activities involving various aspects of cell growth and division. One mammalian member of the family, Cdc42, has an amino acid sequence that is similar to those of various members of the Ras superfamily proteins, including N-, K- and H-Ras, Rho proteins and the Rac proteins. On the basis of *in vitro* phosphorylation studies, it has been suggested that human Cdc42 may function in the signaling pathway of the EGF receptor or related growth factor receptor protein kinases. The Dbl oncogene has been shown to specifically catalyze dissociation of GDP from human Cdc42.

CHROMOSOMAL LOCATION

Genetic locus: CDC42 (human) mapping to 1p36.12; Cdc42 (mouse) mapping to 4 D3.

SOURCE

Cdc42 (B-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 166-182 at the C-terminus of Cdc42 of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Cdc42 (B-8) is available conjugated to agarose (sc-8401 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-8401 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; and to either phycoerythrin (sc-8401 PE), fluorescein (sc-8401 FITC) or Alexa Fluor® 488 (sc-8401 AF488) or Alexa Fluor® 647 (sc-8401 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-8401 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Cdc42 (B-8) is recommended for detection of Cdc42 of mouse, rat, human, *Drosophila melanogaster* and *Xenopus laevis* 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Cdc42 (B-8) is also recommended for detection of Cdc42 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Cdc42 siRNA (h): sc-29256, Cdc42 siRNA (m): sc-29257, Cdc42 shRNA Plasmid (h): sc-29256-SH, Cdc42 shRNA Plasmid (m): sc-29257-SH, Cdc42 shRNA (h) Lentiviral Particles: sc-29256-V and Cdc42 shRNA (m) Lentiviral Particles: sc-29257-V.

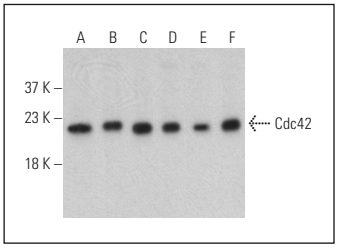
Molecular Weight of Cdc42: 25 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or MCF7 whole cell lysate: sc-2206.

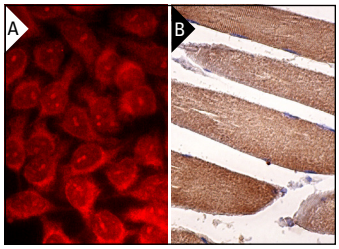
STORAGE

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

DATA



Cdc42 (B-8): sc-8401. Western blot analysis of Cdc42 expression in Hep G2 (**A**), MCF7 (**B**), THP-1 (**C**), Jurkat (**D**), HeLa (**E**) and NIH/3T3 (**F**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



Cdc42 (B-8): sc-8401. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes (**B**).

SELECT PRODUCT CITATIONS

1. Foger, N., et al. 2001. Involvement of CD44 in cytoskeleton rearrangement and raft reorganization in T cells. J. Cell Sci. 114: 1169-1178.
2. Fan, S.H., et al. 2016. Endosomal Na^+/H^+ exchanger NHE5 influences MET recycling and cell migration. Mol. Biol. Cell 27: 702-715.
3. Li, Y., et al. 2017. MicroRNA-29a functions as a potential tumor suppressor through directly targeting Cdc42 in non-small cell lung cancer. Oncol. Lett. 13: 3896-3904.
4. Gonzalez Malagon, S.G., et al. 2018. Glycogen synthase kinase 3 controls migration of the neural crest lineage in mouse and *Xenopus*. Nat. Commun. 9: 1126.
5. Liu, J., et al. 2019. Induction of entosis in prostate cancer cells by nintedanib and its therapeutic implications. Oncol. Lett. 17: 3151-3162.
6. Xiang, P., et al. 2020. HCF-1 promotes cell cycle progression by regulating the expression of Cdc42. Cell Death Dis. 11: 907.
7. Zhang, Q., et al. 2021. PTENε suppresses tumor metastasis through regulation of filopodia formation. EMBO J. 40: e105806.
8. Flores-Muñoz, C., et al. 2022. The long-term Pannexin 1 ablation produces structural and functional modifications in Hippocampal neurons. Cells 11: 3646.
9. de Boer, L.L., et al. 2023. T cell migration requires ion and water influx to regulate actin polymerization. Nat. Commun. 14: 7844.
10. Galloni, C., et al. 2024. Brain endothelial cells promote breast cancer cell extravasation to the brain via EGFR-DOCK4-RAC1 signalling. Commun. Biol. 7: 602.

RESEARCH USE

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