SANTA CRUZ BIOTECHNOLOGY, INC.

Twinfilin-1 (E-4): sc-376539

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Twinfilin is a highly conserved Actin monomer-binding protein that regulates cytoskeletal dynamics in organisms from yeast to mammals. Twinfilin is composed of two ADF-homology domains; it coordinates filament severing and monomer sequestering at sites of rapid Actin turnover, thus preventing assembly of the monomer into filaments. Twinfilin-1 is the mammalian homolog and is expressed in embryos and in most adult non-muscle cell types. Twinfilin-1 binds ADP-G-Actin and efficiently halts Actin filament assembly by inhibiting the nucleotide exchange on Actin monomers and directly interacting with the capping protein. Phosphatidylinositol (4,5)-bisphosphate inhibits the activity of Twinfilin-1, while two small GTPases, namely Rac1 and Cdc42, induce the redistribution of Twinfilin-1 to membrane ruffles and cell-cell contacts, respectively.

CHROMOSOMAL LOCATION

Genetic locus: TWF1 (human) mapping to 12q12; Twf1 (mouse) mapping to 15 E3.

SOURCE

Twinfilin-1 (E-4) is a mouse monoclonal antibody raised against amino acids 175-236 mapping near the C-terminus of Twinfilin-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Twinfilin-1 (E-4) is available conjugated to agarose (sc-376539 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376539 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376539 PE), fluorescein (sc-376539 FITC), Alexa Fluor® 488 (sc-376539 AF488), Alexa Fluor® 546 (sc-376539 AF546), Alexa Fluor® 594 (sc-376539 AF594) or Alexa Fluor® 647 (sc-376539 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376539 AF680) or Alexa Fluor® 790 (sc-376539 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Twinfilin-1 (E-4) is recommended for detection of Twinfilin-1 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).

Suitable for use as control antibody for Twinfilin-1 siRNA (h): sc-61738, Twinfilin-1 siRNA (m): sc-61739, Twinfilin-1 shRNA Plasmid (h): sc-61738-SH, Twinfilin-1 shRNA Plasmid (m): sc-61739-SH, Twinfilin-1 shRNA (h) Lentiviral Particles: sc-61738-V and Twinfilin-1 shRNA (m) Lentiviral Particles: sc-61739-V.

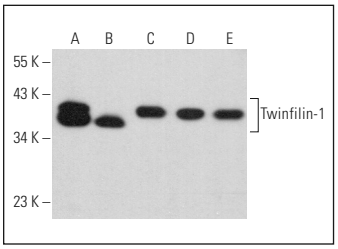
Molecular Weight of Twinfilin-1: 40 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, PC-12 cell lysate: sc-2250 or RT-4 whole cell lysate: sc-364257.

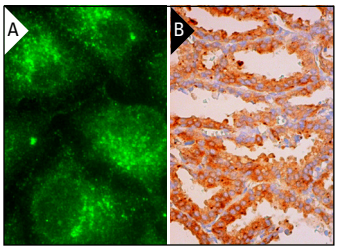
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Twinfilin-1 (E-4): sc-376539. Western blot analysis of Twinfilin-1 expression in NCI-H1299 (**A**), RT-4 (**B**), U-251-MG (**C**), NIH/3T3 (**D**) and PC-12 (**E**) whole cell lysates.



Twinfilin-1 (E-4): sc-376539. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human seminal vesicle tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Wong, C.H., et al. 2022. CircRTN4 promotes pancreatic cancer progression through a novel CircRNA-miRNA-lncRNA pathway and stabilizing epithelial-mesenchymal transition protein. Mol. Cancer 21: 10.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.