SANTA CRUZ BIOTECHNOLOGY, INC.

FGD3 (A-3): sc-390256

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

FGD1 gene mutations result in faciogenital dysplasia (FGDY, Aarskog-Scott syndrome), an X-linked developmental disorder that adversely affects the formation of multiple skeletal structures. FGD1 maps to human chromosome Xp11.21 and shares a high degree of sequence identity with the FGD2 (6p21.2) and the FGD3 (9q22.31) proteins. FGD1 encodes a guanine nucleotide exchange factor that specifically activates the Rho GTPase Cdc42. FGD2 is present in several diverse tissues during embryogenesis, suggesting a role in embryonic development. FGD3 stimulates fibroblasts to form filopodia, which are actin microspikes formed upon the stimulation of Cdc42. All FGD family members contain equivalent signaling domains and a conserved structural organization, which strongly suggests that these signaling domains form a canonical core structure for members of the FGD family of RhoGEF proteins. These proteins control essential signals required during embryonic development.

REFERENCES

1. Pasteris, N.G., et al. 1994. Isolation and characterization of the faciogenital dysplasia (Aarskog-Scott syndrome) gene: a putative Rho/Rac guanine nucleotide exchange factor. Cell 79: 669-678.
2. Olson, M.F., et al. 1996. Faciogenital dysplasia protein (FGD1) and Vav, two related proteins required for normal embryonic development, are upstream regulators of Rho GTPases. Curr. Biol. 6: 1628-1633.
3. Zheng, Y., et al. 1996. The faciogenital dysplasia gene product FGD1 functions as a Cdc42Hs-specific guanine-nucleotide exchange factor. J. Biol. Chem. 271: 33169-33172.
4. Pasteris, N.G., et al. 1997. Genomic organization of the faciogenital dysplasia (FGD1; Aarskog-Scott syndrome) gene. Genomics 43: 390-394.

CHROMOSOMAL LOCATION

Genetic locus: FGD3 (human) mapping to 9q22.31; Fgd3 (mouse) mapping to 13 A5.

SOURCE

FGD3 (A-3) is a mouse monoclonal antibody raised against amino acids 73-173 mapping near the N-terminus of FGD3 of mouse origin.

PRODUCT

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

FGD3 (A-3) is available conjugated to agarose (sc-390256 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390256 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390256 PE), fluorescein (sc-390256 FITC), Alexa Fluor® 488 (sc-390256 AF488), Alexa Fluor® 546 (sc-390256 AF546), Alexa Fluor® 594 (sc-390256 AF594) or Alexa Fluor® 647 (sc-390256 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390256 AF680) or Alexa Fluor® 790 (sc-390256 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

FGD3 (A-3) is recommended for detection of FGD3 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for FGD3 siRNA (h): sc-41715, FGD3 siRNA (m): sc-41716, FGD3 shRNA Plasmid (h): sc-41715-SH, FGD3 shRNA Plasmid (m): sc-41716-SH, FGD3 shRNA (h) Lentiviral Particles: sc-41715-V and FGD3 shRNA (m) Lentiviral Particles: sc-41716-V.

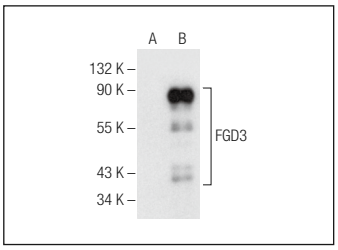
Molecular Weight of FGD3: 81 kDa.

Positive Controls: FGD3 (h2): 293T Lysate: sc-114923 or TK-1 whole cell lysate: sc-364798.

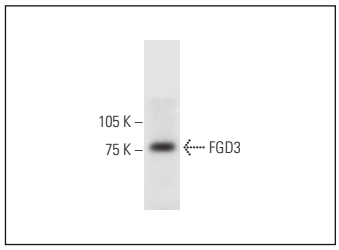
RECOMMENDED SUPPORT REAGENTS

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.

DATA



FGD3 (A-3): sc-390256. Western blot analysis of FGD3 expression in non-transfected: sc-117752 (**A**) and human FGD3 transfected: sc-114923 (**B**) 293T whole cell lysates.



FGD3 (A-3): sc-390256. Western blot analysis of FGD3 expression in TK-1 whole cell lysate.

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.