

FGD3 (G-12): sc-390204

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

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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.
5. Whitehead, I.P., et al. 1998. Cdc42 and FGD1 cause distinct signaling and transforming activities. *Mol. Cell. Biol.* 18: 4689-4697.
6. Pasteris, N.G. and Gorski, J.L. 1999. Isolation, characterization and mapping of the mouse and human FGD2 genes, faciogenital dysplasia (FGD1; Aarskog-Scott syndrome) gene homologues. *Genomics* 60: 57-66.
7. Pasteris, N.G., et al. 2000. Isolation, characterization, and mapping of the mouse FGD3 gene, a new faciogenital dysplasia (FGD1; Aarskog-Scott syndrome) gene homologue. *Gene* 242: 237-247.

CHROMOSOMAL LOCATION

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

SOURCE

FGD3 (G-12) 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 IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

FGD3 (G-12) 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).

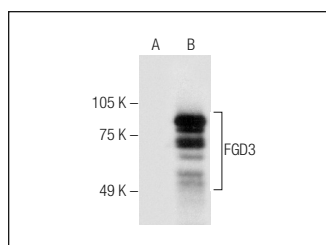
Suitable for use as control antibody for FGD3 siRNA (h): sc-41715, FGD3 siRNA (m): sc-41716, FGD3 shRNA Plasmid (h): sc-41715-SH, FGD3 shRNA Plasmid (m): sc-41716-SH, FGD3 shRNA (h) Lentiviral Particles: sc-41715-V and FGD3 shRNA (m) Lentiviral Particles: sc-41716-V.

Molecular Weight of FGD3: 81 kDa.

Positive Controls: FGD3 (h2): 293T Lysate: sc-114923.

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 (G-12): sc-390204. Western blot analysis of FGD3 expression in non-transfected: sc-117752 (A) and human FGD3 transfected: sc-114923 (B) 293T whole cell lysates.

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.