

## FGD3 (A-3): sc-390256



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<sub>2a</sub> 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.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

## 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.

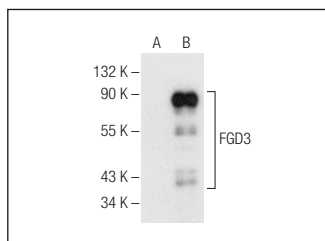
Molecular Weight of FGD3: 81 kDa.

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

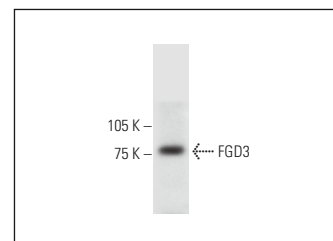
## RECOMMENDED SUPPORT REAGENTS

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](http://www.scbt.com) for detailed protocols and support products.