SANTA CRUZ BIOTECHNOLOGY, INC.

FGD1 (E-10): sc-374389

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

FGD1 gene mutations result in faciogenital dysplasia (FGDY, Aarskog 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 82 kDa FGD2 (6p21.2) and the 81 kDa FGD3 (9q22) 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. 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.
3. 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.
4. Pasteris, N.G., et al. 1997. Genomic organization of the faciogenital dysplasia (FGD1; Aarskog 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., et al. 1999. Isolation, characterization, and mapping of the mouse and human Fgd2 genes, faciogenital dysplasia (FGD1; Aarskog syndrome) gene homologues. Genomics 60: 57-66.

CHROMOSOMAL LOCATION

Genetic locus: FGD1 (human) mapping to Xp11.22; Fgd1 (mouse) mapping to X F3.

SOURCE

FGD1 (E-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 71-107 near the N-terminus of FGD1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-374389 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

FGD1 (E-10) is recommended for detection of FGD1 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).

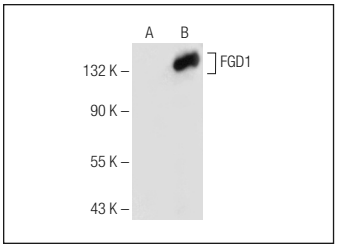
FGD1 (E-10) is also recommended for detection of FGD1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for FGD1 siRNA (h): sc-41711, FGD1 siRNA (m): sc-41712, FGD1 shRNA Plasmid (h): sc-41711-SH, FGD1 shRNA Plasmid (m): sc-41712-SH, FGD1 shRNA (h) Lentiviral Particles: sc-41711-V and FGD1 shRNA (m) Lentiviral Particles: sc-41712-V.

Molecular Weight of FGD1: 107 kDa.

Positive Controls: FGD1 (h): 293T Lysate: sc-113935.

DATA



FGD1 (E-10): sc-374389. Western blot analysis of FGD1 expression in non-transfected: sc-117752 (**A**) and human FGD1 transfected: sc-113935 (**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.