

## FGD5 (C-15): sc-102518

### BACKGROUND

FGD1 gene mutations result in faciogenital dysplasia, also known as FGDY or Aarskog syndrome, an X-linked developmental disorder that adversely affects the formation of multiple skeletal structures. Additional members of the FGD family include FGD2, FGD3, FGD4, FGD5 and FGD6. Also known as Zinc finger FYVE domain-containing protein 23, FGD5 is a 1,462 amino acid cytosolic protein that contains a DH domain, a FYVE-type zinc finger and two PH domains. FGD family members encode guanine nucleotide exchange factors that specifically activate the Rho GTPase Cdc42. All FGD proteins 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 also control essential signals required during embryonic development.

### REFERENCES

- Delague, V., et al. 2007. Mutations in FGD4 encoding the Rho GDP/GTP exchange factor Frabin cause autosomal recessive Charcot-Marie-Tooth type 4H. *Am. J. Hum. Genet.* 81: 1-16.
- Bottani, A., et al. 2007. Unilateral focal polymicrogyria in a patient with classical Aarskog-Scott syndrome due to a novel missense mutation in an evolutionary conserved RhoGEF domain of the faciogenital dysplasia gene FGD1. *Am. J. Med. Genet. A.* 143A: 2334-2338.
- Diluna, M.L., et al. 2007. Cerebrovascular disease associated with Aarskog-Scott syndrome. *Neuroradiology* 49: 457-461.
- Bedoyan, J.K., et al. 2009. First case of deletion of the faciogenital dysplasia 1 (FGD1) gene in a patient with Aarskog-Scott syndrome. *Eur. J. Med. Genet.* 52: 262-264.
- Hayakawa, M., et al. 2008. Novel insights into FGD3, a putative GEF for Cdc42, that undergoes SCF<sup>FWD1</sup>/β-TrCP-mediated proteasomal degradation analogous to that of its homologue FGD1 but regulates cell morphology and motility differently from FGD1. *Genes Cells* 13: 329-342.
- Bashiri, G., et al. 2008. Crystal structures of F420-dependent glucose-6-phosphate dehydrogenase FGD1 involved in the activation of the anti-tuberculosis drug candidate PA-824 reveal the basis of coenzyme and substrate binding. *J. Biol. Chem.* 283: 17531-17541.
- Nakanishi, H. and Takai, Y. 2008. Frabin and other related Cdc42-specific guanine nucleotide exchange factors couple the Actin cytoskeleton with the plasma membrane. *J. Cell. Mol. Med.* 12: 1169-1176.

### CHROMOSOMAL LOCATION

Genetic locus: FGD5 (human) mapping to 3p24.3; Fgd5 (mouse) mapping to 6 D1.

### SOURCE

FGD5 (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of FGD5 of human origin.

### RESEARCH USE

For research use only, not for use in diagnostic procedures.

### PRODUCT

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

Blocking peptide available for competition studies, sc-102518 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

FGD5 (C-15) is recommended for detection of FGD5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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); non cross-reactive with other FGD family members.

FGD5 (C-15) is also recommended for detection of FGD5 in additional species, including equine.

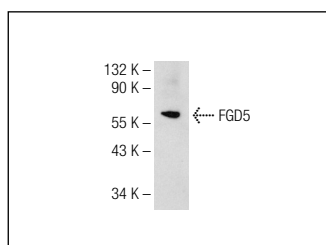
Suitable for use as control antibody for FGD5 siRNA (h): sc-78172, FGD5 siRNA (m): sc-145164, FGD5 shRNA Plasmid (h): sc-78172-SH, FGD5 shRNA Plasmid (m): sc-145164-SH, FGD5 shRNA (h) Lentiviral Particles: sc-78172-V and FGD5 shRNA (m) Lentiviral Particles: sc-145164-V.

Molecular Weight of FGD5 isoforms: 160/61 kDa.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### DATA



FGD5 (C-15): sc-102518. Western blot analysis of FGD5 expression in 293T 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.