

Frabin (43): sc-136333

BACKGROUND

The Rho subfamily of Ras-related GTPases controls multiple aspects of cell function, including cytoskeletal rearrangement, nuclear signaling, and cell growth. The Rho family GTPases function as regulated switches that toggle between a biologically active GTP-bound and an inactive GDP-bound form. This activation is catalyzed by guanine nucleotide exchange factors (GEFs). The Dbl-related proteins are a large family of structurally related molecules that have a common ability to catalyze GEF activity for specific members of the Rho family. FGD1, a Dbl-related protein also known as fasciogenital dysplasia gene product, functions as a GEF for the Rho family member Cdc42. Frabin, also known as FGD1-related F-Actin binding protein, catalyzes Cdc42 GEF activity and binds Actin filaments, implicating it as a potential link between Cdc42 and the cytoskeleton.

REFERENCES

1. Bourne, H.R., et al. 1990. The GTPase superfamily: a conserved switch for diverse cell functions. *Nature* 348: 125-132.
2. Boguski, M.S. and McCormick, F. 1993. Proteins regulating Ras and its relatives. *Nature* 366: 643-654.
3. Cerione, R.A. and Zheng, Y. 1996. The Dbl family of oncogenes. *Curr. Opin. Cell Biol.* 8: 216-222.
4. Whitehead, I.P., et al. 1997. Dbl family proteins. *Biochim. Biophys. Acta* 1332: F1-F23.
5. Zohn, I.M., et al. 1998. Rho family proteins and Ras transformation: the RHOad less traveled gets congested. *Oncogene* 17: 1415-1438.
6. Whitehead, I.P., et al. 1998. Cdc42 and FGD1 cause distinct signaling and transforming activities. *Mol. Cell. Biol.* 18: 4689-4697.
7. Obaishi, H., et al. 1998. Frabin, a novel FGD1-related Actin filament-binding protein capable of changing cell shape and activating c-Jun N-terminal kinase. *J. Biol. Chem.* 273: 18697-18700.

CHROMOSOMAL LOCATION

Genetic locus: FGD4 (human) mapping to 12p11.21; Fgd4 (mouse) mapping to 16 A3.

SOURCE

Frabin (43) is a mouse monoclonal antibody raised against amino acids 91-192 of Frabin of rat 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.

Frabin (43) is available conjugated to agarose (sc-136333 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; and to HRP (sc-136333 HRP), 200 µg/ml, for WB, IHC(P) and ELISA.

RESEARCH USE

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

APPLICATIONS

Frabin (43) is recommended for detection of Frabin 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Frabin siRNA (h): sc-41717, Frabin siRNA (m): sc-41718, Frabin shRNA Plasmid (h): sc-41717-SH, Frabin shRNA Plasmid (m): sc-41718-SH, Frabin shRNA (h) Lentiviral Particles: sc-41717-V and Frabin shRNA (m) Lentiviral Particles: sc-41718-V.

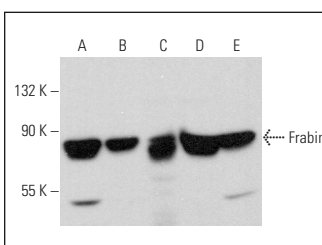
Molecular Weight of Frabin: 105 kDa.

Positive Controls: rat brain extract: sc-2392, Neuro-2A whole cell lysate: sc-364185 or EOC 20 whole cell lysate: sc-364187.

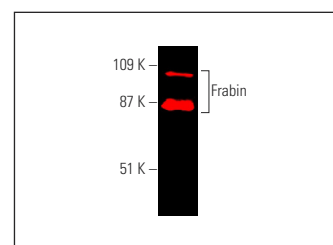
RECOMMENDED SUPPORT REAGENTS

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



Frabin (43): sc-136333. Western blot analysis of Frabin expression in Neuro-2A (A), EOC 20 (B), H4 (C), T98G (D) and IMR-32 (E) whole cell lysates.



Frabin (43): sc-136333. Near-infrared western blot analysis of Frabin expression in rat brain tissue extract. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.

SELECT PRODUCT CITATIONS

1. Singh, V., et al. 2020. EPEC recruits a Cdc42-specific GEF, Frabin, to facilitate PAK activation and host cell colonization. *mBio* 11: e01423-20.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.