

FHOD3 (G-5): sc-374601

BACKGROUND

FHOD3 (formin homology 2 domain containing 3), also known as FHOS2 or KIAA1695, is a 1,422 amino acid protein that localizes to both the cytoplasm and the cytoskeleton and contains one DAD domain, one FH1 domain, one FH2 domain and one GBD/FH3 domain. Expressed in brain, heart and kidney, FHOD3 interacts with intermediate filaments and functions as an Actin-organizing protein that is thought to promote the formation of stress fibers in conjunction with cellular elongation. Multiple isoforms of FHOD3 exist due to alternative splicing events. The gene encoding FHOD3 maps to human chromosome 18, which houses over 300 protein-coding genes and contains nearly 76 million bases. There are a variety of diseases associated with defects in chromosome 18-localized genes, some of which include Trisomy 18 (also known as Edwards syndrome), Niemann-Pick disease, hereditary hemorrhagic telangiectasia, erythropoietic protoporphyria and follicular lymphomas.

REFERENCES

1. Carstea, E.D., et al. 1993. Linkage of Niemann-Pick disease type C to human chromosome 18. *Proc. Natl. Acad. Sci. USA* 90: 2002-2004.
2. Prasad, S., et al. 1999. Intermediate filament proteins during carcinogenesis and apoptosis (review). *Int. J. Oncol.* 14: 563-570.
3. Nagase, T., et al. 2000. Prediction of the coding sequences of unidentified human genes. XIX. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. *DNA Res.* 7: 347-355.

CHROMOSOMAL LOCATION

Genetic locus: FHOD3 (human) mapping to 18q12.2; Fhod3 (mouse) mapping to 18 A2.

SOURCE

FHOD3 (G-5) is a mouse monoclonal antibody raised against amino acids 1-102 mapping at the N-terminus of FHOD3 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.

FHOD3 (G-5) is available conjugated to agarose (sc-374601 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374601 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374601 PE), fluorescein (sc-374601 FITC), Alexa Fluor® 488 (sc-374601 AF488), Alexa Fluor® 546 (sc-374601 AF546), Alexa Fluor® 594 (sc-374601 AF594) or Alexa Fluor® 647 (sc-374601 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374601 AF680) or Alexa Fluor® 790 (sc-374601 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

FHOD3 (G-5) is recommended for detection of FHOD3 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 FHOD3 siRNA (h): sc-75015, FHOD3 siRNA (m): sc-75016, FHOD3 shRNA Plasmid (h): sc-75015-SH, FHOD3 shRNA Plasmid (m): sc-75016-SH, FHOD3 shRNA (h) Lentiviral Particles: sc-75015-V and FHOD3 shRNA (m) Lentiviral Particles: sc-75016-V.

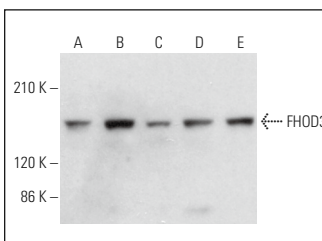
Molecular Weight of FHOD3: 159 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, ES-2 cell lysate: sc-24674 or human heart extract: sc-363763.

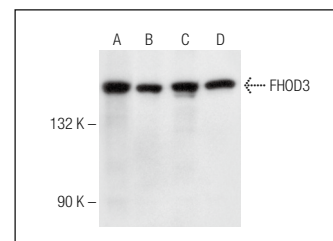
RECOMMENDED SUPPORT REAGENTS

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



FHOD3 (G-5): sc-374601. Western blot analysis of FHOD3 expression in IMR-32 (A), U-251-MG (B), Sol8 (C), BC₃H1 (D) and SJRH30 (E) whole cell lysates.



FHOD3 (G-5): sc-374601. Western blot analysis of FHOD3 expression in Jurkat (A) and ES-2 (B) whole cell lysates and human kidney (C) and human heart (D) tissue extracts.

SELECT PRODUCT CITATIONS

1. Fenix, A.M., et al. 2018. Muscle-specific stress fibers give rise to sarcomeres in cardiomyocytes. *Elife* 7: e42144.
2. Antoku, S., et al. 2019. ERK1/2 phosphorylation of FHOD connects signaling and nuclear positioning alternations in cardiac laminopathy. *Dev. Cell* 51: 602-616.e12.

RESEARCH USE

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