

# fidgetin (F-2): sc-514956

## BACKGROUND

The mouse Fign gene encodes a 759 amino acid protein that is a member of the AAA (ATPases associated with diverse cellular activities) family of ATPases. Fidgetin is a member of the "meiotic" or subfamily-7 group of ATPases associated with diverse cellular activities (AAA proteins). Fidgetin can interact with itself and this interaction can be abolished by truncating either the N- or C-terminus of the protein. AAA proteins are molecular chaperones that facilitate membrane fusion, proteolysis, peroxisome biogenesis, endosome sorting and meiotic spindle formation. The mouse mutation fidget arose spontaneously in a heterogeneous albino stock. This mutant mouse is characterized by a side-to-side head-shaking and circling behavior due to reduced or absent semicircular canals. Fidget mice have small eyes that are associated with cell-cycle delay and insufficient growth of the retinal neural epithelium, and lower penetrance skeletal abnormalities including pelvic girdle dysgenesis, skull bone fusions and polydactyly.

## REFERENCES

1. Cox, G.A., et al. 2000. The mouse fidgetin gene defines a new role for AAA family proteins in mammalian development. *Nat. Genet.* 26: 198-202.
2. Yakushiji, Y., et al. 2004. Identification of a cysteine residue important for the ATPase activity of *C. elegans* fidgetin homologue. *FEBS Lett.* 578: 191-197.
3. Yang, Y., et al. 2005. Functional characterization of fidgetin, an AAA-family protein mutated in fidget mice. *Exp. Cell Res.* 304: 50-58.

## CHROMOSOMAL LOCATION

Genetic locus: FIGN (human) mapping to 2q24.3; Fign (mouse) mapping to 2 C1.3.

## SOURCE

fidgetin (F-2) is a mouse monoclonal antibody raised against amino acids 75-220 mapping near the N-terminus of fidgetin of human 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.

fidgetin (F-2) is available conjugated to agarose (sc-514956 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514956 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514956 PE), fluorescein (sc-514956 FITC), Alexa Fluor® 488 (sc-514956 AF488), Alexa Fluor® 546 (sc-514956 AF546), Alexa Fluor® 594 (sc-514956 AF594) or Alexa Fluor® 647 (sc-514956 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514956 AF680) or Alexa Fluor® 790 (sc-514956 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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

## STORAGE

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

## APPLICATIONS

fidgetin (F-2) is recommended for detection of fidgetin 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 fidgetin siRNA (h): sc-62318, fidgetin siRNA (m): sc-62319, fidgetin shRNA Plasmid (h): sc-62318-SH, fidgetin shRNA Plasmid (m): sc-62319-SH, fidgetin shRNA (h) Lentiviral Particles: sc-62318-V and fidgetin shRNA (m) Lentiviral Particles: sc-62319-V.

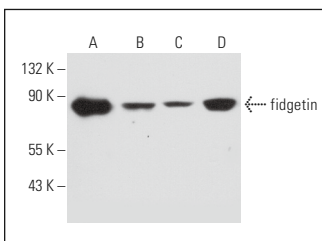
Molecular Weight of fidgetin: 82 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, RPMI2650 whole cell lysate: sc-364192 or NTERA-2 cl.D1 whole cell lysate: sc-364181.

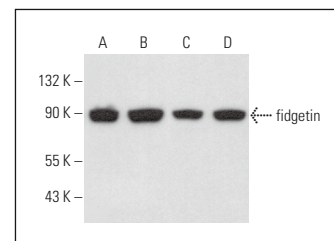
## RECOMMENDED SUPPORT REAGENTS

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



fidgetin (F-2): sc-514956. Western blot analysis of fidgetin expression in RPMI2650 (A), HeLa (B), Hep G2 (C) and NTERA-2 cl.D1 (D) whole cell lysates.



fidgetin (F-2): sc-514956. Western blot analysis of fidgetin expression in Y79 (A), NTERA-2 cl.D1 (B), RPE-J (C) and C6 (D) whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Ma, C., et al. 2023. Fidgetin impacts axonal growth and branching in a local mTOR signal dependent manner. *Exp. Neurol.* 361: 114315.
2. Ma, C., et al. 2023. Fidgetin interacting with microtubule end binding protein EB3 affects axonal regrowth in spinal cord injury. *Neural Regen. Res.* 18: 2727-2732.

## RESEARCH USE

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