

fidgetin (H-146): sc-68343

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 fidgetin 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

- Cox, G.A., Mahaffey, C.L., Nystuen, A., Letts, V.A. and Frankel, W.N. 2000. The mouse fidgetin gene defines a new role for AAA family proteins in mammalian development. *Nat. Genet.* 26: 198-202.
- Yakushiji, Y., Yamanaka, K. and Ogura, T. 2004. Identification of a cysteine residue important for the ATPase activity of *C. elegans* fidgetin homologue. *FEBS Lett.* 578: 191-197.
- Yang, Y., Mahaffey, C.L., Berube, N., Nystuen, A. and Frankel, W.N. 2005. Functional characterization of fidgetin, an AAA-family protein mutated in fidget mice. *Exp. Cell Res.* 304: 50-58.
- Yakushiji, Y., Nishikori, S., Yamanaka, K. and Ogura, T. 2006. Mutational analysis of the functional motifs in the ATPase domain of *Caenorhabditis elegans* fidgetin homologue FIGL-1: firm evidence for an intersubunit catalysis mechanism of ATP hydrolysis by AAA ATPases. *J. Struct. Biol.* 156: 93-100.
- Yang, Y., Mahaffey, C.L., Bérubé, N. and Frankel, W.N. 2006. Interaction between fidgetin and protein kinase A-anchoring protein AKAP95 is critical for palatogenesis in the mouse. *J. Biol. Chem.* 281: 22352-22359.

CHROMOSOMAL LOCATION

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

SOURCE

fidgetin (H-146) is a rabbit polyclonal antibody raised against amino acids 75-220 mapping near the N-terminus of fidgetin of human origin.

PRODUCT

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

STORAGE

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

APPLICATIONS

fidgetin (H-146) is recommended for detection of fidgetin 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).

fidgetin (H-146) is also recommended for detection of fidgetin in additional species, including equine, canine, bovine, porcine and avian.

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.

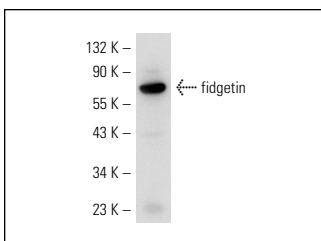
Molecular Weight of fidgetin: 82 kDa.

Positive Controls: mouse heart extract: sc-2254.

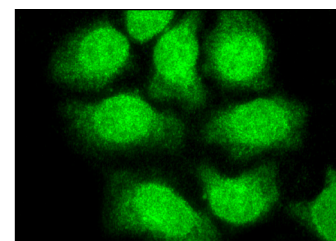
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



fidgetin (H-146): sc-68343. Western blot analysis of fidgetin expression in mouse heart tissue extract.



fidgetin (H-146): sc-68343. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization.

RESEARCH USE

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



Try **fidgetin (F-2): sc-514956**, our highly recommended monoclonal alternative to fidgetin (H-146).