

fidgetin (N-20): sc-54888

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.
4. Yakushiji, Y., et al. 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.
5. Yang, Y., et al. 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 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region 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.

Blocking peptide available for competition studies, sc-54888 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

fidgetin (N-20) 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 (N-20) is also recommended for detection of fidgetin in additional species, including equine, canine, bovine and porcine.

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.

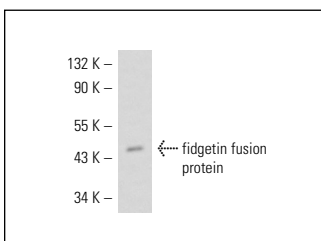
Molecular Weight of fidgetin: 82 kDa.

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 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



fidgetin (N-20): sc-54888. Western blot analysis of human recombinant fidgetin fusion protein.

RESEARCH USE

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

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Try **fidgetin (F-2): sc-514956**, our highly recommended monoclonal alternative to fidgetin (N-20).