SANTA CRUZ BIOTECHNOLOGY, INC.

Fatso (G-1): sc-515410

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Fatso, also known as FTO or KIAA1752, is a 505 amino acid protein that has an N-terminal nuclear localization signal. Expressed in a variety of tissues, with highest levels present in brain and pancreatic tissue, Fatso exists as four alternatively spliced isoforms, once of which is associated with a predisposition to childhood and adult obesity. Due to its involvement in the development of obesity, Fatso is associated with an increased BMI and may be involved in the pathogenesis of type 2 diabetes. The gene encoding Fatso maps to human chromosome 16, which encodes over 900 genes and comprises nearly 3% of the human genome. The GAN gene is located on chromosome 16 and, with mutation, may lead to giant axonal neuropathy, a nervous system disorder characterized by increasing malfunction with growth. The rare disorder Rubinstein-Taybi syndrome is also associated with chromosome 16, as is Crohn's disease, which is a gastrointestinal inflammatory condition.

REFERENCES

1. Peters, T., et al. 1999. Cloning of Fatso (FTO), a novel gene deleted by the Fused toes (Ft) mouse mutation. Mamm. Genome 10: 983-986.
2. Pascoe, L., et al. 2007. Common variants of the novel type 2 diabetes genes CDKAL1 and HHEX/IDE are associated with decreased pancreatic β-cell function. Diabetes 56: 3101-3104.
3. Field, S.F., et al. 2007. Analysis of the obesity gene FTO in 14,803 type 1 diabetes cases and controls. Diabetologia 50: 2218-2220.
4. Dina, C., et al. 2007. Variation in FTO contributes to childhood obesity and severe adult obesity. Nat. Genet. 39: 724-726.
5. Frayling, T.M. 2007. Genome-wide association studies provide new insights into type 2 diabetes aetiology. Nat. Rev. Genet. 8: 657-662.
6. Scuteri, A., et al. 2007. Genome-wide association scan shows genetic variants in the FTO gene are associated with obesity-related traits. PLoS Genet. 3: e115.
7. Frayling, T.M., et al. 2007. A common variant in the FTO gene is associated with body mass index and predisposes to childhood and adult obesity. Science 316: 889-894.

CHROMOSOMAL LOCATION

Genetic locus: FTO (human) mapping to 16q12.2; Fto (mouse) mapping to 8 C5.

SOURCE

Fatso (G-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 479-495 at the C-terminus of Fatso of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-515410 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Fatso (G-1) is recommended for detection of Fatso 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 Fatso siRNA (h): sc-75002, Fatso siRNA (m): sc-75003, Fatso shRNA Plasmid (h): sc-75002-SH, Fatso shRNA Plasmid (m): sc-75003-SH, Fatso shRNA (h) Lentiviral Particles: sc-75002-V and Fatso shRNA (m) Lentiviral Particles: sc-75003-V.

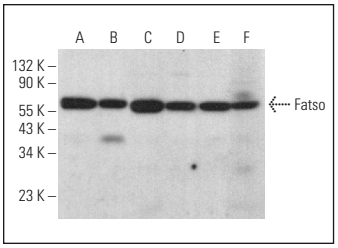
Molecular Weight of Fatso: 58 kDa.

Positive Controls: MIA PaCa-2 cell lysate: sc-2285, SW-13 cell lysate: sc-24778 or SK-N-MC cell lysate: sc-2237.

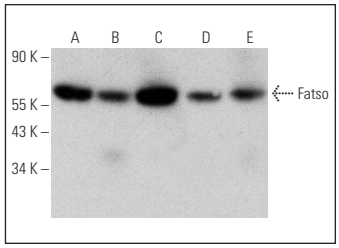
RECOMMENDED SUPPORT REAGENTS

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



Fatso (G-1): sc-515410. Western blot analysis of Fatso expression in Caco-2 (**A**), Ca Ski (**B**), Neuro-2A (**C**), Sol8 (**D**) and A-10 (**E**) whole cell lysates and rat brain tissue extract (**F**).



Fatso (G-1): sc-515410. Western blot analysis of Fatso expression in SK-N-MC (**A**), SW-13 (**B**), MIA PaCa-2 (**C**) and Y79 (**D**) whole cell lysates and human hypothalamus tissue extract (**E**).

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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