

Fatso (C-3): sc-271713

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, one 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.

CHROMOSOMAL LOCATION

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

SOURCE

Fatso (C-3) is a mouse monoclonal antibody raised against amino acids 252-505 mapping at the C-terminus of Fatso of human 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.

Fatso (C-3) is available conjugated to agarose (sc-271713 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271713 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271713 PE), fluorescein (sc-271713 FITC), Alexa Fluor[®] 488 (sc-271713 AF488), Alexa Fluor[®] 546 (sc-271713 AF546), Alexa Fluor[®] 594 (sc-271713 AF594) or Alexa Fluor[®] 647 (sc-271713 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-271713 AF680) or Alexa Fluor[®] 790 (sc-271713 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Fatso (C-3) 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), immunohistochemistry (including paraffin-embedded sections) (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.

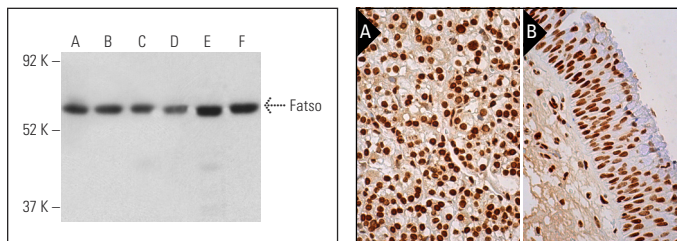
Molecular Weight of Fatso: 58 kDa.

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

STORAGE

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

DATA



Fatso (C-3): sc-271713. Western blot analysis of Fatso expression in SK-N-MC (A), SW-13 (B), MIA PaCa-2 (C), RT-4 (D) and F9 (E) whole cell lysates and Y79 nuclear extract (F). Detection reagent used: m-IgG₁ BP-HRP: sc-525408.

Fatso (C-3): sc-271713. Immunoperoxidase staining of formalin fixed, paraffin-embedded human parathyroid gland tissue showing nuclear staining of glandular cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human nasopharynx tissue showing nuclear staining of respiratory epithelial cells (B).

SELECT PRODUCT CITATIONS

- Guzel, N., et al. 2017. Exogenous expressions of FTO wild-type and R316Q mutant proteins caused an increase in HNRPK levels in 3T3-L1 cells as demonstrated by DIGE analysis. *Biomed Res. Int.* 2017: 8216180.
- Kanli, A., et al. 2018. Identification of differentially regulated deceitful proteins in SH-SY5Y cells engineered with Tet-regulated protein expression system. *J. Cell. Biochem.* 119: 6065-6071.
- Song, T., et al. 2019. Zfp217 mediates m⁶A mRNA methylation to orchestrate transcriptional and post-transcriptional regulation to promote adipogenic differentiation. *Nucleic Acids Res.* 47: 6130-6144.
- Yang, S., et al. 2019. m⁶A mRNA demethylase FTO regulates melanoma tumorigenicity and response to anti-PD-1 blockade. *Nat. Commun.* 10: 2782.
- Dorris, E.R., et al. 2020. The transcription factor CUX1 negatively regulates invasion in castrate resistant prostate cancer. *Oncotarget* 11: 846-857.
- Qiu, Z., et al. 2020. MYC regulation of D2HGDH and L2HGDH influences the epigenome and epitranscriptome. *Cell Chem. Biol.* 27: 538-550.e7.
- Ferenc, K., et al. 2020. Intracellular and tissue specific expression of FTO protein in pig: changes with age, energy intake and metabolic status. *Sci. Rep.* 10: 13029.
- Liu, X., et al. 2020. Adenylate kinase 4 modulates the resistance of breast cancer cells to tamoxifen through an m⁶A-based epitranscriptomic mechanism. *Mol. Ther.* 28: 2593-2604.

RESEARCH USE

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

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