

PRODUCT INFORMATION



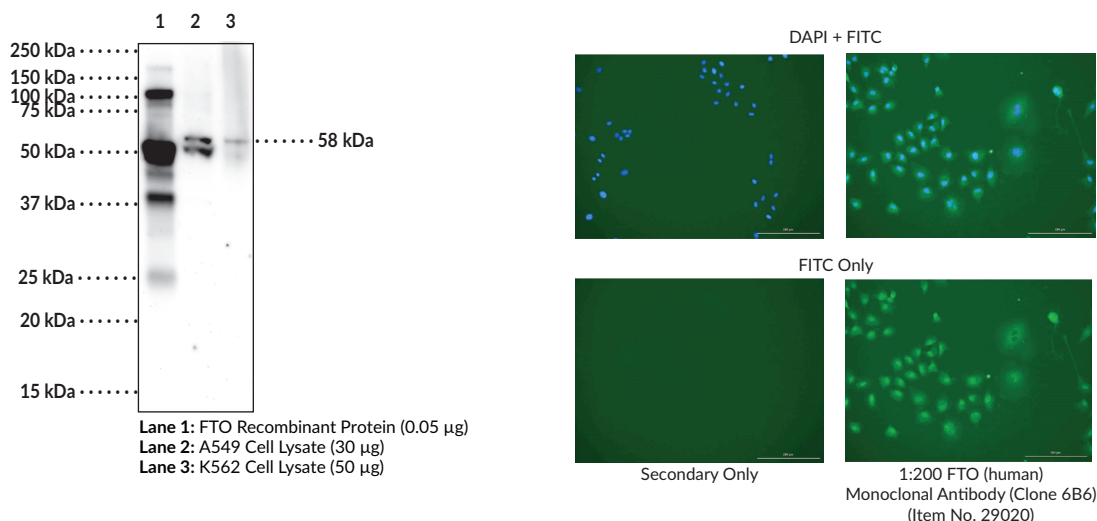
FTO (human) Monoclonal Antibody (Clone 6B6)

Item No. 29020

Overview and Properties

Contents:	This vial contains 100 µg of protein G-purified monoclonal antibody.
Synonyms:	Fat Mass- and Obesity-associated Protein, α -Ketoglutarate-dependent Dioxygenase FTO
Immunogen:	Full-length recombinant human FTO protein
Species Reactivity:	(+) Human; other species not tested
Uniprot No.:	Q9COB1
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
Clone:	6B6
Host:	Mouse
Isotype:	IgG1
Applications:	ELISA, Immunofluorescence (IF), and Western blot (WB); the recommended starting dilution for ELISA and WB is 1:1,000 and 1:200 for IF. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Immunofluorescence analysis of paraformaldehyde-fixed, A549 cells. After incubation with FTO (human) Monoclonal Antibody (Clone 6B6) (Item No. 29020), at a 1:200 dilution (or negative control) cells were incubated with FITC labeled anti-mouse IgG (Item No. 10006617), followed by DAPI nuclear stain. Images show FITC alone or both fluorescence channels to highlight nuclear staining (where applicable).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Fat mass and obesity-associated (FTO) protein is a nuclear-residing N⁶-methyladenosine (m⁶A) RNA demethylase that is encoded by the *FTO* gene in humans.¹⁻³ It is composed of an N-terminal domain similar in structure to members of the AlkB non-heme iron-containing dioxygenase family and a C-terminal domain that is not similar to other known domains.⁴ The N-terminal domain contains a loop not found in other AlkB proteins that may be responsible for its specificity for single-stranded nucleic acids. *FTO* is highly expressed during development and in the adult brain, adipose tissue, and muscle and its expression is modified by the availability of essential amino acids *in vitro* and following fasting or a chronic high-fat diet *in vivo* in mice.^{3,5,6} *FTO* regulates mRNA splicing and is required for adipogenesis.^{1,7} Knockdown of *Fto* in mice increases m⁶A-containing transcripts of the adipogenesis-related gene *Runx1t1*, enhances binding of the splicing regulatory protein Srsf2 to *Runx1t1*, which induces the inclusion of *Runx1t1* exon 6 and the production of long *Runx1t1* transcripts, and leads to inhibition of pre-adipocyte differentiation. *Fto* is associated with obesity in transgenic mouse models, with overexpression increasing food intake and weight gain and knockout reducing body weight, body length, fat mass, and white adipose tissue, as well as increasing energy expenditure while decreasing locomotor activity.² *FTO* SNPs are associated with body mass index and obesity risk in humans.^{6,8} Cayman's *FTO* (human) Monoclonal Antibody (Clone 6B6) can be used for ELISA, immunofluorescence (IF), and Western blot (WB) applications. The antibody recognizes *FTO* at 58 kDa from human samples.

References

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