

PRODUCT INFORMATION



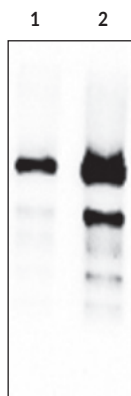
FTO (mouse) Monoclonal Antibody (Clone FT 342-1)

Item No. 10815

Overview and Properties

Contents:	This vial contains a 1 mg/ml solution of antibody in PBS, pH 7.4.
Synonyms:	Fat Mass- and Obesity-associated Protein, α -Ketoglutarate-dependent Dioxygenase FTO
Immunogen:	Recombinant mouse FTO
Species Reactivity:	(+) Mouse and rat; (-) Human; other species not tested
Storage:	-20°C (as supplied)
Stability:	≥6 months
Clone:	FT 342-1
Host:	Rat
Isotype:	IgG _{2ak}
Applications:	ELISA and Western blot (WB); the recommended starting dilution for ELISA (direct or indirect) and WB is 1:2,000-1:5,000. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Image



Lane 1: Recombinant rat FTO
Lane 2: Recombinant mouse FTO

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* (mouse) Monoclonal Antibody (Clone FT 342-1) can be used for ELISA and Western blot applications. The antibody recognizes *FTO* at 58 kDa from mouse and rat samples.

References

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