

FTO Rabbit mAb
Catalog # AP75458**Specification**

FTO Rabbit mAb - Product Information

Application	WB, IHC-P, IHC-F, ICC
Primary Accession	Q9C0B1
Reactivity	Human
Host	Rabbit
Clonality	Monoclonal Antibody
Calculated MW	58282

FTO Rabbit mAb - Additional Information**Gene ID** 79068**Other Names**
FTO**Dilution**
WB~~1/500-1/1000
IHC-P~~N/A
IHC-F~~N/A
ICC~~N/A**Format**
50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% sodium azide and 0.05% BSA.**Storage**
Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.**FTO Rabbit mAb - Protein Information****Name** FTO {ECO:0000303|PubMed:17496892, ECO:0000312|HGNC:HGNC:24678}**Function**
RNA demethylase that mediates oxidative demethylation of different RNA species, such as mRNAs, tRNAs and snRNAs, and acts as a regulator of fat mass, adipogenesis and energy homeostasis (PubMed:22002720, PubMed:25452335, PubMed:26457839, PubMed:26458103, PubMed:28002401, PubMed:30197295). Specifically demethylates N(6)- methyladenosine (m6A) RNA, the most prevalent internal modification of messenger RNA (mRNA) in higher eukaryotes (PubMed:22002720, PubMed:25452335, PubMed:25452335, PubMed:25452335).

[26457839](http://www.uniprot.org/citations/26457839), PubMed:<[26458103](http://www.uniprot.org/citations/26458103)>, PubMed:<[30197295](http://www.uniprot.org/citations/30197295)>). M6A demethylation by FTO affects mRNA expression and stability (PubMed:<[30197295](http://www.uniprot.org/citations/30197295)>). Also able to demethylate m6A in U6 small nuclear RNA (snRNA) (PubMed:<[30197295](http://www.uniprot.org/citations/30197295)>). Mediates demethylation of N(6),2'-O- dimethyladenosine cap (m6A(m)), by demethylating the N(6)-methyladenosine at the second transcribed position of mRNAs and U6 snRNA (PubMed:<[28002401](http://www.uniprot.org/citations/28002401)>, PubMed:<[30197295](http://www.uniprot.org/citations/30197295)>). Demethylation of m6A(m) in the 5'-cap by FTO affects mRNA stability by promoting susceptibility to decapping (PubMed:<[28002401](http://www.uniprot.org/citations/28002401)>). Also acts as a tRNA demethylase by removing N(1)-methyladenine from various tRNAs (PubMed:<[30197295](http://www.uniprot.org/citations/30197295)>). Has no activity towards 1-methylguanine (PubMed:<[20376003](http://www.uniprot.org/citations/20376003)>). Has no detectable activity towards double-stranded DNA (PubMed:<[20376003](http://www.uniprot.org/citations/20376003)>). Also able to repair alkylated DNA and RNA by oxidative demethylation: demethylates single-stranded RNA containing 3-methyluracil, single-stranded DNA containing 3-methylthymine and has low demethylase activity towards single-stranded DNA containing 1-methyladenine or 3-methylcytosine (PubMed:<[18775698](http://www.uniprot.org/citations/18775698)>, PubMed:<[20376003](http://www.uniprot.org/citations/20376003)>). Ability to repair alkylated DNA and RNA is however unsure in vivo (PubMed:<[18775698](http://www.uniprot.org/citations/18775698)>, PubMed:<[20376003](http://www.uniprot.org/citations/20376003)>). Involved in the regulation of fat mass, adipogenesis and body weight, thereby contributing to the regulation of body size and body fat accumulation (PubMed:<[18775698](http://www.uniprot.org/citations/18775698)>, PubMed:<[20376003](http://www.uniprot.org/citations/20376003)>). Involved in the regulation of thermogenesis and the control of adipocyte differentiation into brown or white fat cells (PubMed:<[26287746](http://www.uniprot.org/citations/26287746)>). Regulates activity of the dopaminergic midbrain circuitry via its ability to demethylate m6A in mRNAs (By similarity). Plays an oncogenic role in a number of acute myeloid leukemias by enhancing leukemic oncogene-mediated cell transformation: acts by mediating m6A demethylation of target transcripts such as MYC, CEBPA, ASB2 and RARA, leading to promote their expression (PubMed:<[28017614](http://www.uniprot.org/citations/28017614)>, PubMed:<[29249359](http://www.uniprot.org/citations/29249359)>).

Cellular Location

Nucleus. Nucleus speckle. Cytoplasm Note=Localizes mainly in the nucleus, where it is able to demethylate N(6)-methyladenosine (m6A) and N(6),2'-O-dimethyladenosine cap (m6A(m)) in U6 small nuclear RNA (snRNA), N(1)-methyladenine from tRNAs and internal m6A in mRNAs (PubMed:30197295). In the cytoplasm, mediates demethylation of m6A and m6A(m) in mRNAs and N(1)-methyladenine from tRNAs (PubMed:30197295).

Tissue Location

Ubiquitously expressed, with relatively high expression in adrenal glands and brain; especially in hypothalamus and pituitary (PubMed:17434869, PubMed:17496892). Highly expressed in highly expressed in acute myeloid leukemias (AML) with t(11;11)(q23;23) with KMT2A/MLL1 rearrangements, t(15;17)(q21;q21)/PML-RARA, FLT3-ITD, and/or NPM1 mutations (PubMed:28017614).

FTO Rabbit mAb - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

FTO Rabbit mAb - Images



