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Fto antibody - N-terminal region

Rabbit Polyclonal Antibody
Catalog # AI12799

Product Information

Application	WB
Primary Accession	Q8BGW1
Other Accession	NM_011936, NP_036066
Reactivity	Human, Mouse, Rat, Rabbit, Pig, Dog, Horse, Bovine, Sheep, Yeast
Predicted	Human, Mouse, Rat, Rabbit, Pig, Horse, Bovine, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	58007

Additional Information

Gene ID	26383
Alias Symbol	AW743446, mKIAA1752
Other Names	Alpha-ketoglutarate-dependent dioxygenase FTO, 1.14.11.-, Fat mass and obesity-associated protein, Protein fatso, Fto, Kiaa1752
Format	Liquid. Purified antibody supplied in 1x PBS buffer with 0.09% (w/v) sodium azide and 2% sucrose.
Reconstitution & Storage	Add 50 ul of distilled water. Final anti-Fto antibody concentration is 1 mg/ml in PBS buffer with 2% sucrose. For longer periods of storage, store at 20°C. Avoid repeat freeze-thaw cycles.
Precautions	Fto antibody - N-terminal region is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Fto {ECO:0000303|PubMed:10501967, ECO:0000312|MGI:MGI:1347093}
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:17991826, PubMed:18775698, PubMed:28002401). Specifically demethylates N(6)-methyladenosine (m6A) RNA, the most prevalent internal modification of messenger RNA (mRNA) in higher eukaryotes (PubMed:28002401). M6A demethylation by FTO affects mRNA expression and stability (By similarity). Also able to demethylate m6A in U6 small nuclear RNA (snRNA) (By similarity). 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). Demethylation of m6A(m) in the 5'-cap by FTO affects mRNA stability by promoting susceptibility to decapping (By similarity). Also acts as a tRNA demethylase by removing N(1)-methyladenine from various tRNAs (By similarity). Has no activity towards 1-methylguanine (By similarity). Has no detectable activity towards double-stranded DNA (By similarity). 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:17991826, PubMed:18775698). Ability to repair alkylated DNA and RNA is however unsure in vivo (PubMed:17991826, PubMed:18775698). Involved in the regulation of fat mass, adipogenesis and body weight, thereby contributing to the regulation of body size and body fat accumulation (PubMed:19234441, PubMed:19680540, PubMed:21076408, PubMed:23300482, PubMed:23817550). Involved in the regulation of thermogenesis and the control of adipocyte differentiation into brown or white fat cells (PubMed:19234441, PubMed:19680540). Regulates activity of the dopaminergic midbrain circuitry via its ability to demethylate m6A in mRNAs (PubMed:23817550).

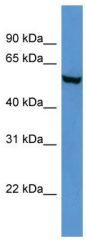
Cellular Location

Nucleus. Nucleus speckle {ECO:0000250|UniProtKB:Q9C0B1}. Cytoplasm {ECO:0000250|UniProtKB:Q9C0B1}. 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. In the cytoplasm, mediates demethylation of m6A and m6A(m) in mRNAs and N(1)-methyladenine from tRNAs. {ECO:0000250|UniProtKB:Q9C0B1}

Tissue Location

Ubiquitous. Detected in brain, brain cortex, hypothalamus, cerebellum, liver, pancreas, heart, kidney, white adipose tissue and skeletal muscle. Most abundant in the brain, particularly in hypothalamic nuclei governing energy balance

Images



WB Suggested Anti-Fto Antibody Titration: 0.2-1 µg/ml
ELISA Titer: 1:1562500
Positive Control: Mouse Brain