Recombinant Human FTO Protein (T32-P505), His tagged

Cat. No. FTO-1055H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human 6His-EIN-TEV-FTO(T32-P505 end) Protein was expressed in E. coli.
Species	Human
Source	E.coli
ProteinLength	T32-P505
Description	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. Specifically demethylates N(6)-methyladenosine (m6A) RNA, the most prevalent internal modification of messenger RNA (mRNA) in higher eukaryotes. M6A demethylation by FTO affects mRNA expression and stability. Also able to demethylate m6A in U6 small nuclear RNA (snRNA). 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. Demethylation of m6A(m) in the 5'-cap by FTO affects mRNA stability by promoting susceptibility to decapping. Also acts as a tRNA demethylase by removing N(1)-methyladenine from various tRNAs. Has no activity towards 1-methylguanine. Has no detectable activity towards double-stranded DNA. 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

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	containing 1-methyladenine or 3-methylcytosine. Ability to repair alkylated DNA and RNA is however unsure in vivo. Involved in the regulation of fat mass, adipogenesis and body weight, thereby contributing to the regulation of body size and body fat accumulation. Involved in the regulation of thermogenesis and the control of adipocyte differentiation into brown or white fat cells. Regulates activity of the dopaminergic midbrain circuitry via its ability to demethylate m6A in mRNAs. 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.
Form	Liquid
Endotoxin	< 0.01 EU per μg of the protein
Purity	90%
Stability	Samples are stable for up to twelve months from date of receipt at -20 to -80 centigrade.
Storage	Store it under sterile conditions at -20 to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Storage Buffer	Supplied as sterile 50 mM Tris-HCl (pH7.5), 200 mM NaCl, 20% glycerol
Shipping	It is shipped out with blue ice.

GENE INFORMATION

Gene Name	FTO fat mass and obesity associated [Homo sapiens (human)]

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Official Symbol	FTO
Synonyms	FTO; fat mass and obesity associated; alpha-ketoglutarate-dependent dioxygenase FTO; KIAA1752; MGC5149; protein fto; fat mass and obesity-associated protein;
Gene ID	79068
mRNA Refseq	NM_001080432
Protein Refseq	NP_001073901
MIM	610966
UniProt ID	Q9C0B1

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