OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

Product datasheet for RN215259

Fto (NM_001039713) Rat Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Fto (NM_001039713) Rat Untagged Clone
Tag:	Tag Free
Symbol:	Fto
Synonyms:	RGD1305121
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

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Fully Sequenced ORF:

>RN215259 representing NM_001039713
Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGAAGCGCGTCCAGACCGCGGAGGAACGGGAGCGGGAAGCTAAGAAACTGAGGCTCCTCGAGGAGCTTG
AAGACACTTGGCTTCCTTACCTGACCCCCAAAGATGACGAGTTCTATCAGCAGTGGCAGCTGAAATATCC
TAAACTGGTTTTCCGAGAGGCTGGCAGCATACCCGAGGAGCTGCACAAAGAGGTCCCCGAGGCCTTTCTC
ACACTGCACAAGCATGGCTGCTTGTTTCGGGACCTGGTGAGGATCCAAGGCAAAGACGTGCTCACCCCGG
TGTCTCGCATCCTCATTGGGGACCCCGGCTGCACCTACAAGTACTTGAACACCAGGCTCTTCACCGTGCC
CTGGCCAGTGAAGGGCTGCACCATCAATTACACAGAGGCCGAGATTGCCGCCGCATGTCAGACCTTCCTC
AAGCTCAATGACTACCTACAGGTCGAGACCATCCAGGCCTTGGAAGAACTGGCTATCAAAGAGAAGGCCA
ATGAAGACGCTGTGCCGTTGTGCATGGCAGAGTTCCCCAGGGCTGGCGTGGGACCGTCCTGCGATGATGA
AGTGGACCTTAAGAGCAGAGCAGCCTACAACGTGACTTTGCTAAACTTCATGGATCCTCAGAAAATGCCG
TACTTGAAAGAGGAGCCCTATTTCGGCATGGGGAAGATGGCGGTGAGCTGGCACCATGACGAGAACTTGG
TGGACAGGTCAGCCGTGGCGGTGTACAGCTATAGCTGTGAAGGCTCCGAGGATGAAAGCGATGACGAGTC
CAGCTTCGAAGGCAGAGATCCCGATACGTGGCATGTTGGTTTTAAGATCTCATGGGACATCGAGACGCCA
GGCTTGACAATTCCTCTTCACCAGGGAGACTGCTATTTCATGCTGGATGACCTCAATGCCACCCACCAGC
ACTGTGTTTTGGCTGGCTCACAGCCTCGGTTTAGCTCCACCCACCGCGTGGCAGAGTGCTCAACAGGCAC
CTTGGATTATATCTTACAACGCTGCCAGTTGGCACTGCAGAATGTTCTCAATGACTCGGACAATGGCGAC
GTCTCGCTGAAGTCCTTCGAGCCTGCAGTTCTGAAACAAGGAGAAGAGATCCACAACGAGGTCGAGTTTG
AGTGGCTGAGGCAGTTCTGGTTTCAAGGAAATCGATACAAAATTTGCACTGATTGGTGGTGTGAGCCCAT
GACTCAGCTGGAGGGGCTGTGGAAGAAGATGGAGAGTGTGACAAATGCCGTGCTTCGTGAAGTTAAGAGA
GAGGGGCTCTCCGTGGAACAAAGGAGTGAAATTCTGTCTGCCGTCCTGATCCCACTCACCATGCGCCAGA
ATCTGAGGAAAGAATGGCACGCCAGGTGCCAGGCCCGAGTTGTCCGAACTCTACCAGCACAGCAGAAACC
AGACTGCCGGCCATATTGGGAGAAGGATGACCCTTCTATGCCTCTGCCCTTTGACCTCACAGATGTGGTC
TCTGAGATCAGAAGCCAGCTTCTGGAAGCAAGATCCTAG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites: SgfI-MluI

ACCN: NM_001039713

Insert Size: 1509 bp

OTI Disclaimer: Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:	1. Centrifuge at 5,000xg for 5min. 2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA. 3. Close the tube and incubate for 10 minutes at room temperature. 4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom. 5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.
RefSeq:	NM_001039713.1, NP_001034802.1
RefSeq Size:	1571 bp
RefSeq ORF:	1509 bp
Locus ID:	291905
UniProt ID:	Q2A121
Cytogenetics:	19p11
Gene Summary:	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 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 (By similarity). Regulates activity of the dopaminergic midbrain circuitry via its ability to demethylate m6A in mRNAs (By similarity).[UniProtKB/Swiss-Prot Function]