

Datasheet for ABIN3136151
FTO Protein (AA 1-502) (Strep Tag)



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Overview

Quantity:	250 µg
Target:	FTO
Protein Characteristics:	AA 1-502
Origin:	Mouse
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This FTO protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Brand:	AliCE®
Sequence:	<p>MKRVQTAEER EREAKKLRLLEEDTWLPY LTPKDDEFYQ QWQLKYPKLV FREAGSIPEE LHKEVPEAFL TLHKHGCLFR DVVRIQGKDV LTPVSRILIG DPGCTYKYNL TRLFVTPWPV KGCTVKYTEA EIAAACQTFL KLNDYLQVET IQALEELAVR EKANEDAVPL CMAEFPRAGV GPSCDDEVLD KSRAAYNVTL LNFMDPQKMP YLKEEPYFGM GKMAVSWHHD ENLVDRSAVA VYSYSCGESE DESEDESSFE GRDPDTWHVG FKISWDIETP GLTIPLHQGD CYFMLDDLNA THQHCVLGAS QPRFSSTHRV AECSTGTLDY ILERCQLALQ NVLNSDDGD VSLKSFDPAV LKQGEEIHNE VEFWLRQFW FQGNRYKLCT DWWCEPMTHL EGLWKKMESM TNAVLREVKR EGLPVEQRSE ILSAILVPLT VRQNLKKEWH ARCQSRVVRT LPVQQKPCR PYWEKDDPSM PLPFDLTDVV SELRGQLLEA RS</p> <p>Sequence without tag. The proposed Strep-Tag is based on experience s with the expression system, a different complexity of the protein could make another tag necessary. In case you</p>

have a special request, please contact us.

Characteristics:

Key Benefits:

- Made in Germany - from design to production - by highly experienced protein experts.
- Protein expressed with ALiCE® and purified in one-step affinity chromatography
- These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed).
- State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a **made-to-order protein** and will be made for the first time for your order. Our experts in the lab try to ensure that you receive soluble protein.

The big advantage of ordering our **made-to-order proteins** in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

Expression System:

- ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from *Nicotiana tabacum* c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.
- During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!

Concentration:

- The concentration of our recombinant proteins is measured using the absorbance at 280nm.
- The protein's absorbance will be measured against its specific reference buffer.
- We use the ExPASy's ProtParam tool to determine the absorption coefficient of each protein.

Purification:

One-step Strep-tag purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®).

Purity:

> 70-80 % as determined by SDS PAGE, Western Blot and analytical SEC (HPLC).

Grade:

custom-made

Target Details

Target:	FTO
Alternative Name:	Fto (FTO Products)
Background:	<p>Alpha-ketoglutarate-dependent dioxygenase FTO (Fat mass and obesity-associated protein) (Protein fatso) (U6 small nuclear RNA (2'-O-methyladenosine-N(6)-)-demethylase FTO) (EC 1.14.11.-) (U6 small nuclear RNA N(6)-methyladenosine-demethylase FTO) (EC 1.14.11.-) (mRNA (2'-O-methyladenosine-N(6)-)-demethylase FTO) (m6A(m)-demethylase FTO) (EC 1.14.11.-) (mRNA N(6)-methyladenosine demethylase FTO) (EC 1.14.11.53) (tRNA N1-methyl adenine demethylase FTO) (EC 1.14.11.-),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:23817550, PubMed:23300482). 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). {ECO:0000250 UniProtKB:Q9C0B1, ECO:0000269 PubMed:17991826, ECO:0000269 PubMed:18775698, ECO:0000269 PubMed:19234441, ECO:0000269 PubMed:19680540, ECO:0000269 PubMed:21076408, ECO:0000269 PubMed:23300482, ECO:0000269 PubMed:23817550,</p>

Target Details

	ECO:0000269 PubMed:28002401}.
Molecular Weight:	58.0 kDa
UniProt:	Q8BGW1

Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Comment:	<p>ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from <i>Nicotiana tabacum</i> c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.</p> <p>During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!</p>
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	<p>The buffer composition is at the discretion of the manufacturer.</p> <p>Standard Storage Buffer: PBS pH 7.4, 10 % Glycerol Might differ depending on protein.</p>
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months