abcam

## Product datasheet

# Recombinant Human FTO protein ab109039

## 2 References

### Description

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|---|---|
| **Product name** | Recombinant Human FTO protein |
| **Purity** | > 90 % SDS-PAGE.<br>ab109039 is 0.2µm filtered. |
| **Endotoxin level** | < 1.000 Eu/µg |
| **Expression system** | Escherichia coli |
| **Accession** | Q9C0B1 |
| **Protein length** | Full length protein |
| **Animal free** | No |
| **Nature** | Recombinant |
| **Species** | Human |
| **Sequence** | KRTPTAEEREREAKKLRLLEELEDTWLPYLTPKDDEFYQQ WQLKYPKLIL REASSVSEELHKEVQEAFLTLHKHGCLFRDLVRIQGKDLL TPVSRILIGN PGCTYKYLNTRLFTVPWPVKGSNIKHTEAEIAAACETFLKL NDYLQIETI QALEELAAKEKANEDAVPLCMSADFPRVGMGSSYNGQD EVDIKSRAAYNV TLLNFMDPQKMPYLKEEPYFGMGKMAVSWHHDENLVDR SAVAVYSYSCEG PEEESEDDSHLEGRDPDIWHVGFKISWDIETPGLAIPLHQ GDCYFMLDDL NATHQHCVLAGSQPRFSSTHRVAECSTGTLDYILQRCQLA LQNVCDDVDN DDVSLKSFEPAVLKQGEEIHNEVEFEWLRQFWFQGNRYR KCTDWWCQPMA QLEALWKKMEGVTNAVLHEVKREGLPVEQRNEILTAILAS LTARQNLRRE WHARCQSRIARTLPADQKPECRPYWEKDDASMPLPFDL TDIVSELRGQLL EAKP |
| **Predicted molecular weight** | 65 kDa including tags |
| **Amino acids** | 2 to 505 |
| **Tags** | His tag N-Terminus |

## Specifications

Our **Abpromise guarantee** covers the use of **ab109039** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

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| **Applications** | SDS-PAGE |
| **Form** | Liquid |

## Preparation and Storage

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|---|---|
| **Stability and Storage** | Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.<br>pH: 8.20<br>Constituents: 0.869% Tris HCl, 0.87% Sodium chloride |

## General Info

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| **Function** | Dioxygenase that repairs alkylated DNA and RNA by oxidative demethylation. Has highest activity towards single-stranded RNA containing 3-methyluracil, followed by single-stranded DNA containing 3-methylthymine. Has low demethylase activity towards single-stranded DNA containing 1-methyladenine or 3-methylcytosine. Has no activity towards 1-methylguanine. Has no detectable activity towards double-stranded DNA. Requires molecular oxygen, alpha-ketoglutarate and iron. Contributes to the regulation of the global metabolic rate, energy expenditure and energy homeostasis. Contributes to the regulation of body size and body fat accumulation. |
| **Tissue specificity** | Ubiquitously expressed, with relatively high expression in adrenal glands and brain; especially in hypothalamus and pituitary. |
| **Involvement in disease** | Defects in FTO are the cause of growth retardation developmental delay coarse facies and early death (GRDDCFED) [MIM:612938]. The disease consists of a severe children multiple congenital anomaly syndrome with death by the age of 3 years. All affected individuals had postnatal growth retardation, microcephaly, severe psychomotor delay, functional brain deficits, and characteristic facial dysmorphism. In some patients, structural brain malformations, cardiac defects, genital anomalies, and cleft palate were also observed. |
| **Sequence similarities** | Belongs to the fto family. |
| **Domain** | The 3D-structure of the Fe2OG dioxygenase domain is similar to that of the Fe2OG dioxygenase domain found in the bacterial DNA repair dioxygenase alkB and its mammalian orthologs, but sequence similarity is very low. As a consequence, the domain is not detected by protein signature databases. |
| **Cellular localization** | Nucleus. |



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