Human FTO/Alpha-ketoglutarate-dependent dioxygenase FTO ELISA Kit

E45K00795

Catalog Number:E45K00795

Species Reactivity: Human

Storage: Store at +4°C. Please refer to protocols.

Cite ID#:EN5521245

Type: Human ELISA Kits

Description: Human FTO/Alpha-ketoglutarate-dependent dioxygenase FTO ELISA Kit is a ready-to-use microwell, strip plate ELISA (enzyme-linked immunosorbent assay) Kit designed for the quantitative measurement of FTO in biological samples. Our rigorously validated, ready-to-go Human FTO/Alpha-ketoglutarate-dependent dioxygenase FTO ELISA Kit use a simple protocol that easily integrates into your current processes, allowing you to rapidly and accurately detect FTO in your samples. Appropriate sample types may include Cell Culture Supernates, Serum, Platelet-poor EDTA Plasma, Platelet-poor Heparin Plasma, Urine. Precision Intra-Assay Precision (Precision within an assay): Three samples of known concentration were tested several times on one plate to assess intra-assay precision. Inter-Assay Precision (Precision between assays): Three samples of known concentration were tested in several separate assays to assess inter-assay precision. Assays were performed by at least two technicians using two lots of components.

Assay type: Sandwich

Detection principle: Spectrophotometrical

Sample type: This immunoassay kit allows for the in vitro quantitative determination in Serum, plasma, tissue homogenates, cell culture supernates and other biological fluids.

Sensitivity:0.166 ng/mL

Assay range:0.312-20 ng/mL

Kit components: Assay Plate, Standard, Sample Diluent, Assay Diluent A&B, Detection Reagent A&B, Wash Buffer, Substrate, Stop Solution.

Other reagents required: Deionized or distilled water

Gene Name:FTO

Swiss-Prot No.:Q9C0B1

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:22002720, PubMed:26458103, PubMed:28002401, PubMed:30197295, PubMed:26457839, PubMed:25452335). Specifically demethylates N(6)-methyladenosine (m6A) RNA, the most prevalent internal modification of messenger RNA (mRNA) in higher eukaryotes (PubMed:22002720, PubMed:26458103, PubMed:30197295, PubMed:26457839, PubMed:25452335). M6A demethylation by FTO affects mRNA expression and stability (PubMed:30197295). Also able to demethylate m6A in U6 small nuclear RNA (snRNA) (PubMed:30197295). 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, PubMed:30197295). Demethylation of m6A(m) in the 5'-cap by FTO affects mRNA stability by promoting susceptibility to decapping (PubMed:28002401). Also acts as a tRNA demethylase by removing N(1)-methyladenine from various tRNAs (PubMed:30197295). Has no activity towards 1-methylguanine (PubMed:20376003). Has no detectable activity towards double-stranded DNA (PubMed:20376003). 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:18775698, PubMed:20376003). Ability to repair alkylated DNA and RNA is however unsure in vivo (PubMed:18775698, PubMed:20376003). Involved in the regulation of fat mass, adipogenesis and body weight, thereby contributing to the regulation of body size and body fat accumulation (PubMed:18775698, PubMed:20376003). Involved in the regulation of thermogenesis and the control of adipocyte differentiation into brown or white fat cells (PubMed:26287746). Regulates activity of the dopaminergic midbrain circuitry via its ability to demethylate m6A in mRNAs (By similarity). Plays an

Form:ELISA Kits

Synonyms: Fat mass and obesity-associated protein,KIAA1752,U6 small nuclear RNA (2'-O-methyladenosine-N(6)-)-demethylase FTO,U6 small nuclear RNA N(6)-methyladenosine-demethylase FTO,mRNA (2'-O-methyladenosine-N(6)-)-demethylase FTO,m6A(m)-demethylase FTO,mRNA N(6)-methyladenosine demethylase FTO,tRNA N1-methyl adenine demethylase FTO