



Human alpha-ketoglutarate-dependent dioxygenase (FTO) ELISA kit (0.312-20 ng/mL)

Cat. No.:	0126WXX-31
Assay Type:	Quantitative ELISA
Target Species:	Human
Assay Target:	FTO
Size:	96T

This product is for research use only and is not intended for diagnostic use.

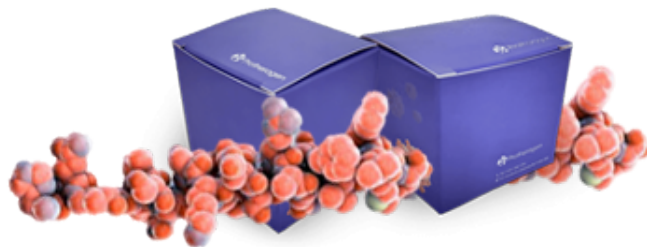
Product Overview

Description

Human alpha-ketoglutarate-dependent dioxygenase (FTO) ELISA kit (0.312-20 ng/mL) is an ELISA-based *in vitro* research tool designed specifically for the quantitative detection of FTO in human samples with a range of 0.312-20 ng/mL. The kit is highly sensitive and easy to use.

Assay Principle

The ELISA analytical biochemical technique is based on FTO antibody-FTO antigen interactions (immunosorbency) and an HRP colorimetric detection system to detect FTO antigen targets in samples.



Background

FTO is a crucial dioxygenase primarily responsible for repairing alkylated DNA and RNA through oxidative demethylation. It exhibits the highest activity toward single-stranded RNA containing 3-methyluracil and requires molecular oxygen, α -ketoglutarate, and iron as cofactors. Beyond its role in nucleic acid repair, FTO participates in regulating systemic metabolic rate, energy expenditure, and energy homeostasis, thereby influencing body composition and adipose tissue accumulation. Defects in this protein are associated with various disorders, including growth retardation, developmental delays, and premature mortality. The relationship between FTO and obesity represents a highly significant research area, given that FTO is currently one of the strongest known genetic associates of obesity. Research indicates that FTO influences body weight by regulating energy balance and fat accumulation. Its mechanisms involve modulating appetite and satiety signaling pathways, as well as influencing lipolysis and lipogenesis processes. Specific FTO gene variants have been demonstrated to be significantly associated with higher BMI and obesity risk.

Synonyms

GDFD; IFEX9; ALKBH9; BMIQ14; KIAA1752; Fat mass and obesity-associated protein; FTO, alpha-ketoglutarate dependent dioxygenase; EC 1.14.11.-

EC NO.

1.14.11.-

Formula Weight

12,218 Da

Applications

Human alpha-ketoglutarate-dependent dioxygenase (FTO) ELISA kit (0.312-20 ng/mL) is used to quantify FTO in serum, plasma, tissue homogenates, and other biological fluids of human, providing data to support research in a wide range of areas, including enzyme & kinase, obesity, and others.

Research Area

Enzyme & kinase; Obesity

Specification

Sample Type

Serum; Plasma; Tissue homogenates; Other biological fluids

Detection Range

0.312-20 ng/mL

Cross-reactivity

No significant cross-reactivity or interference was observed.

Storage

Store at 4°C.