



Mouse uncoupling protein 2 (UCP2) ELISA kit-Quantitative competitive

Cat. No.:	0126WXX-2059
Assay Type:	Quantitative competitive ELISA
Target Species:	Mouse
Assay Target:	UCP2
Size:	48T; 96T

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

Product Overview

Description

Mouse uncoupling protein 2 (UCP2) ELISA kit-Quantitative competitive is an ELISA - based *in vitro* research tool designed specifically for the quantitative detection of UCP2 in mouse samples with a range of 250-5000 pg/mL and a minimum detectable dose (sensitivity) of 1.0 pg/mL. The kit is highly sensitive and easy to use.

Assay Principle

This UCP2 ELISA kit utilizes a competitive enzyme immunoassay technique featuring a polyclonal anti-UCP2 antibody and a UCP2-HRP conjugate. Samples and assay buffers are co-incubated with the UCP2-HRP conjugate in a pre-coated plate for one hour. During this process, endogenous UCP2 from the sample competes with the HRP-labeled conjugate for a limited number of antibody binding sites. Following the incubation period, the wells are decanted and washed five times. The wells are then incubated with an HRP substrate, forming a blue complex that turns yellow once the stop solution is added. The color intensity, measured at 450 nm, is inversely proportional to the UCP2 concentration. A standard curve is used to interpolate the UCP2 concentration of each sample based on its optical density (O.D.) .



Background

Uncoupling protein 2 (UCP2) is a mitochondrial transporter that facilitates proton leakage across the inner mitochondrial membrane, reducing ATP production and dissipating energy as heat. By modulating mitochondrial membrane potential and cellular metabolism, UCP2 influences oxidative stress, insulin response, and energy balance. Dysregulation of UCP2 activity has been linked to altered energy expenditure and fat accumulation, contributing to obesity and obesity-related metabolic traits.

Synonyms

Uncoupling protein 2; mitochondrial; SLC25A8; UCPH; Solute carrier family 25 member 8; Mitochondrial uncoupling protein 2

Formula Weight

33,229 Da

Applications

Mouse uncoupling protein 2 (UCP2) ELISA kit-Quantitative competitive is used to quantify UCP2 in serum, plasma, cell culture supernatants, body fluid, tissue homogenate of mouse, providing data to support research in a wide range of areas, including developmental science, obesity, and others.

Research Area

Developmental science; Obesity

Specification

Sample Type	Serum; Plasma; Cell culture supernatants; Body fluid; Tissue homogenate
Detection Range	250-5000 pg/mL
Sensitivity	1.0 pg/mL
Precision (Intra-assay)	CV<10%
Precision (Inter-assay)	CV<12%
Cross-reactivity	No significant cross-reactivity or interference was observed.
Recovery	92-101%
Storage	Store at 2-8°C.