



Rat pro-opiomelanocortin (POMC) ELISA kit (0.156-10 ng/mL)

Cat. No.:	0126WXX-1450
Assay Type:	Quantitative sandwich ELISA
Target Species:	Rat
Assay Target:	POMC
Size:	48T; 96T

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

Product Overview

Description

Rat pro-opiomelanocortin (POMC) ELISA kit (0.156-10 ng/mL) is an ELISA-based *in vitro* research tool designed specifically for the quantitative detection of POMC in rat samples with a range of 0.156-10 ng/mL and a minimum detectable dose (sensitivity) of 0.05 ng/mL. The kit is highly sensitive and easy to use.

Assay Principle

This experiment utilizes a typical double-sandwich ELISA technique. The microplate is pre-coated with a rat POMC monoclonal antibody, and the detection antibody is a biotin-labeled polyclonal antibody. Samples and the biotinylated antibody are added to the wells and washed with PBS or TBS. Next, avidin-peroxidase conjugates are added. After washing out the reactants thoroughly, the TMB substrate is used for coloration. The resulting color intensity is positively correlated with the concentration of the testing factors in the sample.



Background

POMC, a highly complex precursor polypeptide belonging to the POMC family and encoded at chromosomal location 2p23.3, serves as a central hub in the endocrine regulation of energy homeostasis and systemic metabolism. Synthesized as a secreted protein that undergoes extensive peptide hormone processing, POMC is vital for the neuropeptide signaling pathways that govern appetite regulation, glucose homeostasis, and blood pressure. Its biological significance is underscored by its role in producing ACTH to stimulate adrenal cortisol release, as well as its essential binding activities at melanocortin receptors (MC3R and MC4R) to modulate feeding behavior. Crucially, genetic defects in POMC are directly linked to Pro-opiomelanocortin Deficiency (POMCD) and a heightened susceptibility to early-onset obesity—a condition defined by the excessive accumulation of body fat beyond physiological requirements. Beyond its primary metabolic functions, POMC influences diverse processes ranging from cellular pigmentation and neuropeptide transduction to the negative regulation of tumor necrosis factor production, highlighting its status as a pivotal molecular driver in the complex pathology of metabolic disorders.

Synonyms

POC; NPP; ProOMC; ACTH; Pro-OMC; Pro-opiomelanocortin; Corticotropin-lipotropin; Corticotropin; Adrenocorticotrophic hormone; Proopiomelanocortin

Formula Weight

29,424 Da

Applications

Rat pro-opiomelanocortin (POMC) ELISA kit (0.156-10 ng/mL) is used to quantify POMC in rat serum, plasma, cell culture supernatant, and organizations, providing data to support research in a wide range of areas, including endocrinology, obesity, and others.

Research Area

Endocrinology; Obesity

Specification

Sample Type	Rat serum; Plasma; Cell culture supernatant; Organizations
Detection Range	0.156-10 ng/mL
Sensitivity	0.05 ng/mL
Precision (Intra-assay)	CV≤8%
Precision (Inter-assay)	CV≤12%
Cross-reactivity	No significant cross-reactivity or interference was observed.
Recovery	70-110%
Storage	Store at 2-8°C.