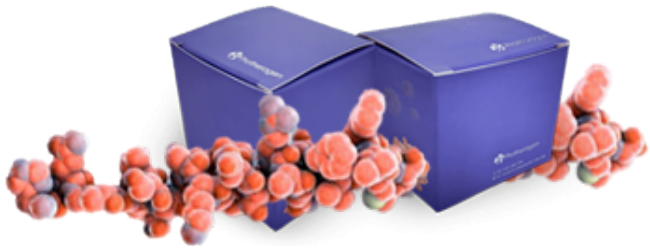
Protheragen Obesity



Mouse pro-opiomelanocortin (POMC) ELISA kit (123.5-10000 pg/mL)

Cat. No.:	0126WXX-1440
Assay Type:	Quantitative competitive ELISA
Target Species:	Mouse
Assay Target:	POMC
Size:	24T; 48T; 96T

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

Product Overview

Description

Mouse pro-opiomelanocortin (POMC) ELISA kit (123.5-10000 pg/mL) is an ELISA-base d *in vitro* research tool designed specifically for the quantitative detec tion of POMC in mouse samples with a range of 123.5-10000 pg/mL and a minimum de tectable dose (sensitivity) of 48.4 pg/mL. The kit is highly sensitive and easy to use.

Assay Principle

This assay employs a competitive inhibition enzyme immunoassay technique. A mono clonal antibody specific to POMC is pre-coated onto a microplate. A competitive inhibition reaction is initiated between biotin-labeled POMC and unlabeled POMC (from standards or samples) for the pre-coated antibody sites. After incubation and washing away unbound conjugates, avidin conjugated to HRP is added to each w ell. Upon the addition of the substrate solution, the resulting color intensity is inversely proportional to the concentration of POMC in the sample, allowing f or accurate quantitative determination *via* a standard curve.

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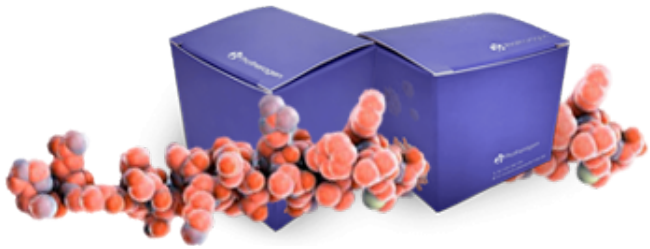

Background	POMC, a highly complex precursor polypeptide belonging to the POMC family and en coded at chromosomal location 2p23.3, serves as a central hub in the endocrine r egulation of energy homeostasis and systemic metabolism. Synthesized as a secret ed protein that undergoes extensive peptide hormone processing, POMC is vital fo r the neuropeptide signaling pathways that govern appetite regulation, glucose h omeostasis, and blood pressure. Its biological significance is underscored by it s role in producing ACTH to stimulate adrenal cortisol release, as well as its e ssential binding activities at melanocortin receptors (MC3R and MC4R) to modulat e feeding behavior. Crucially, genetic defects in POMC are directly linked to Pr o-opiomelanocortin Deficiency (POMCD) and a heightened susceptibility to early-o nset obesity—a condition defined by the excessive accumulation of body fat beyon d physiological requirements. Beyond its primary metabolic functions, POMC influ ences diverse processes ranging from cellular pigmentation and neuropeptide tran sduction to the negative regulation of tumor necrosis factor production, highlig hting its status as a pivotal molecular driver in the complex pathology of metab olic disorders.
Synonyms	POC; NPP; ProOMC; ACTH; Pro-OMC; Pro opiomelanocortin; Corticotropin-lipotropin; Corticotropin; Adrenocorticotropic hormone; Proopiomelanocortin
Formula Weight	29,424 Da
Applications	Mouse pro-opiomelanocortin (POMC) ELISA kit (123.5-10000 pg/mL) is used to quant ify POMC in serum, plasma, and other biological fluids of mouse, providing data to support research in a wide range of areas, including endocrinology, obesity, and others.
Research Area	Endocrinology; Obesity

Specification

Sample Type	Serum; Plasma; Other biological fluids
Detection Range	123.5-10000 pg/mL
Sensitivity	48.4 pg/mL
Precision (Intra-assay)	CV<10%
Precision (Inter-assay)	CV<12%
Cross-reactivity	No significant cross-reactivity or interference was observed.
Storage	Store at 2-8°C.

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