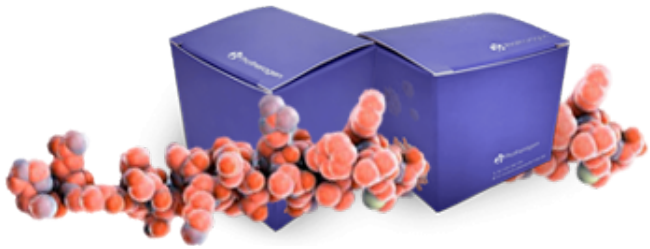
Protheragen Obesity



Human pro-opiomelanocortin (POMC) ELISA kit (78-5000 pg/mL)

Cat. No.:	0126WXX-1433
Assay Type:	Quantitative sandwich ELISA
Target Species:	Human
Assay Target:	POMC
Size:	24T; 48T; 96T

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

Product Overview

Description	Human pro-opiomelanocortin (POMC) ELISA kit (78-5000 pg/mL) is an ELISA-based *in vitro* research tool designed specifically for the quantitative detection of POMC in human samples with a range of 78-5000 pg/mL and a minimum detectable dose (sensitivity) of 19.5 pg/mL. The kit is highly sensitive and easy to use.
Assay Principle	This assay employs a quantitative sandwich enzyme immunoassay technique. An anti body specific for POMC is pre-coated onto a microplate. Standards and samples ar e pipetted into the wells, where any POMC present is bound by the immobilized an tibody. After removing unbound substances, a biotin-conjugated detection antibod y specific for POMC is added. Following a wash step, avidin-conjugated HRP is in troduced. After a final wash to remove unbound reagents, a substrate solution is added, and color develops in direct proportion to the amount of POMC bound in t he initial step.

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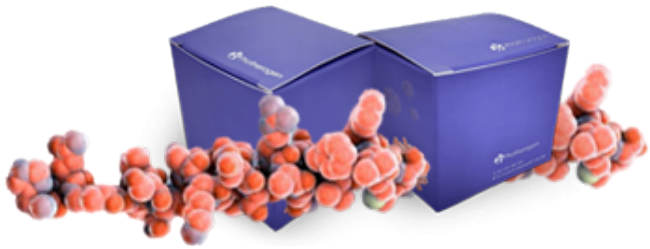

Background	POMC, a highly complex precursor polypeptide belonging to the POMC family and en coded at chromosomal location 2p23.3, serves as a central hub in the endocrine r egulation of energy homeostasis and systemic metabolism. Synthesized as a secret ed protein that undergoes extensive peptide hormone 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	Human pro-opiomelanocortin (POMC) ELISA kit (78-5000 pg/mL) is used to quantify POMC in serum, cell culture supernatants, and tissue homogenates of human, provi ding data to support research in a wide range of areas, including endocrinology, obesity, and others.
Research Area	Endocrinology; Obesity

Specification

Sample Type	Serum; Cell culture supernatants; Tissue homogenates
Detection Range	78-5000 pg/mL
Sensitivity	19.5 pg/mL
Precision (Intra-assay)	CV<8%
Precision (Inter-assay)	CV<10%
Cross-reactivity	No significant cross-reactivity or interference was observed.
Storage	Store at 2-8°C.

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