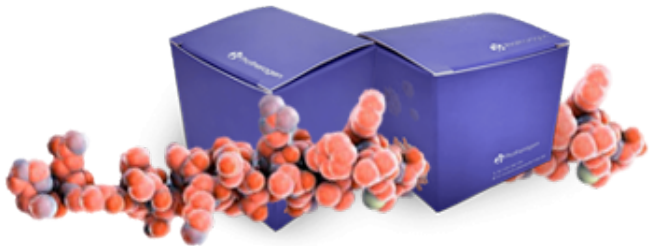
Protheragen Obesity



AdipoUpX™ Human ACAT2 MSCV Particle (Overexpression)

Cat. No.:	V1225XX941
Species:	Human
Target Gene:	ACAT2
Vector System:	MSCV Retrovirus
Modulation Type:	Overexpression

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

Product Overview

Description	AdipoUpX™ Human ACAT2 MSCV Particle (Overexpression) is a high-efficiency retrov iral vector designed for stable overexpression of the human ACAT2 gene. ACAT2 en codes acyl-CoA: cholesterol acyltransferase 2, a key enzyme in cholesterol ester ification and lipid absorption pathways linked to dyslipidemia and obesity. The MSCV system enables robust, long-term gene expression in hematopoietic stem cell s, stem cells, and other mammalian cell lines. Each product undergoes comprehens ive quality control, including viral titer determination, sterility testing, and mycoplasma detection, ensuring experimental reproducibility and biosafety.
Production Cell Line	HEK293T
Promoter	Ubi; CMV; EF1a; Others
Product Availability	Produced Upon Order

Specification

Titer Test	qPCR
Insert Verification	Final QC confirmed the correct molecular size and integrity of the insert throug h specific PCR amplification.
Sterility Test	No microbial contamination was detected in any product.
Mycoplasma Test	No mycoplasma presence was detected in this final viral preparation upon compreh ensive testing.

Address: 101-4 Colin Dr, Holbrook, NY 11741, USA
Phone: 1-631-506-1393
info@obesityscientific.com

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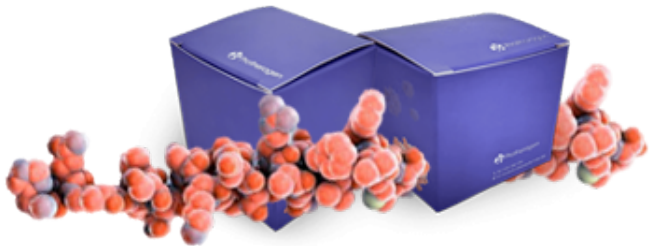

Other QC	Our service scope includes both customized supplementary testing and comprehensi ve *in vitro*/*in vivo* transduction assessments.
Storage	The necessity of immediate transfer to -80 °C storage following receipt is cruci al for upholding the product's integrity.
Stability	Biological activity remains intact for 6-12 months when stored at -80°C. Once re moved from the freezer, the diluted working material is stable for up to 2-3 wee ks at 4°C.
Shipping Condition	Our MSCV retroviral products are shipped using dry ice.
Handling Notes	Store the vector according to specified conditions and aliquot it immediately up on receipt into low-protein-binding tubes, which is necessary to maintain titer because viral particles are highly sensitive to both temperature fluctuations an d freeze-thaw cycles.
Intended Use	This product is intended for research use only and is not for use in diagnosis o r therapeutic applications.
Product Disclaimer	Throughout all operational processes, users bear ultimate responsibility for pro duct storage, handling, and compliance with all safety protocols, laws, regulati ons, and biosafety requirements. Although our company commits to product quality *via* rigorous internal QC inspections, the complexity of experimental con ditions means we cannot guarantee product performance or experimental results in any specific application.

Target Profile

Gene Name	ACAT2
Full Name	Acetyl-CoA acetyltransferase 2
Gene ID	39
RefSeq ID-1	NP_001290182.1
RefSeq ID-2	NM_001303253.1
Summary	ACAT2 encodes cytosolic acetoacetyl-CoA thiolase, an essential enzyme in lipid m etabolism. It is involved in the metabolic pathways that handle ketone bodies an d fatty acid fragments within the cytoplasm. Interestingly, the gene overlaps wi th the 3-prime region of the TCP1 gene on the opposite DNA strand, suggesting a complex genomic architecture that may influence its regulation across different species.

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