

MacroCargo™ Human THP-1 with SIRPα gRNA (Viral System, Lentivirus)

Cat. No.: MTS-1122-YF504

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

Cell Properties

Product Overview	As a therapeutic tool, macrophage cell has a great capacity for delivering cargos because of their intrinsic characteristics. This product is engineered Human THP-1 carried with SIRPα gRNA by Viral System-Lentivirus. MacroCargo™ products aim to improve the macrophage function and delivery of specific cargos. We also provide custom macrophage delivery systems based on your specific requirements.
Cell Name	THP-1
Cell Type	Cell Line
Cell Species	Human
Cell Background	THP-1 is a monocyte isolated from peripheral blood from an acute monocytic leukemia patient. This cell line can be used in immune system disorder research, immunology research, and toxicology research.

Cargo Properties

Cargo Type	CRISPR KO
Specific Cargo	SIRPα gRNA
Target Common Name	SIRPA
Target Alternative Names	BIT; MFR; P84; SIRP; MYD-1; SHPS1; CD172A; PTPNS1
Target Full Name	Signal regulatory protein alpha
Introduction	The protein encoded by this gene is a member of the signal-regulatory-protein (SIRP) family, and also belongs to the immunoglobulin superfamily. SIRP family members are receptor-type transmembrane glycoproteins known to be involved in the negative regulation of receptor tyrosine kinase-coupled signaling processes. This protein can be phosphorylated by tyrosine kinases. The phospho-tyrosine residues of this PTP have been shown to recruit SH2 domain containing tyrosine phosphatases (PTP), and serve as substrates of PTPs. This protein was found to participate in signal transduction mediated by various growth factor receptors. CD47 has been demonstrated to be a ligand for this receptor protein. This gene and its product share very high similarity with several other members of the SIRP family. These related genes are

e located in close proximity to each other on chromosome 20p13. Multiple alternatively spliced transcript variants have been determined for this gene.

UniprotID	P78324
GeneID	140885
Cargo Delivery System Type	Viral System
Cargo Delivery Approach	Lentivirus

Product Properties

Applications	Prevent cancer cells from evading immune clearance
References	Brom, Victoria C., et al. "The role of immune checkpoint molecules on macrophages in cancer, infection, and autoimmune pathologies." <i>Frontiers in Immunology</i> 13 (2022): 837645. Distributed under Open Access license CC BY 4.0 , without modification.
Mycoplasma Testing	Negative
Sterility Testing	Negative
Shipping	Dry ice
Storage	Frozen cells should be stored in a liquid nitrogen tank (-150°C~-190°C) for long term.
Handling Notes	Frozen cells should be thawed immediately upon receipt and grown according to handling procedure to ensure cell viability and proper assay performance. Note: Do not freeze the cells upon receipt as it may result in irreversible damage to the cell line. Disclaimer: We cannot guarantee cell viability if the cells are not thawed immediately upon receipt and grown according to handling procedure.
Restriction	Research use only