

MacroCargo™ Human PBMC-derived Monocytes with pDNA encoding IL-6 (Nanoparticle System, Magnetic cationic liposomes)

Cat. No.: MTS-1222-YF161

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 PBMC-derived Monocytes carried with pDNA encoding IL-6 by Nanoparticle System-Magnetic cationic liposomes. 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	PBMC-derived Monocytes
Cell Type	Primary Cell
Cell Species	Human
Cell Background	Monocytes express various receptors, which monitor and sense environmental changes. Monocytes are highly plastic and heterogeneous, and change their functional phenotype in response to environmental stimulation. Evidence from murine and human studies has suggested that monocytosis can be an indicator of various inflammatory diseases. Monocytes can differentiate into inflammatory or anti-inflammatory subsets. Upon tissue damage or infection, monocytes are rapidly recruited to the tissue, where they can differentiate into tissue macrophages or dendritic cells.

Cargo Properties

Cargo Type	Cytokine
Specific Cargo	pDNA encoding IL-6
Cargo Common Name	IL6
Cargo Alternative Names	CDF; HGF; HSF; BSF2; IL-6; BSF-2; IFNB2; IFN-beta-2
Cargo Full Name	Interleukin 6
Introduction	This gene encodes a cytokine that functions in inflammation and the maturation of B cells. In addition, the encoded protein has been shown to be an endogenous pyrogen capable of inducing fever in people with autoimmune diseases or infections. The protein is primarily produced at sites of acute and chronic inflammation, where it is s

ecreted into the serum and induces a transcriptional inflammatory response through interleukin 6 receptor, alpha. The functioning of this gene is implicated in a wide variety of inflammation-associated disease states, including susceptibility to diabetes mellitus and systemic juvenile rheumatoid arthritis. Elevated levels of the encoded protein have been found in virus infections, including COVID-19 (disease caused by SARS-CoV-2).

UniprotID	P05231
GeneID	3569
Cargo Delivery System Type	Nanoparticle System
Cargo Delivery Approach	Magnetic cationic liposomes
Nanoparticle Component	DOTAP, DSPC, cholesterol, iron oxide (II, III).

Product Properties

Applications	Improve the delivery of macrophages to tumors and its therapeutic efficacy against inflammatory diseases
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