

MacroCargo™ Mouse Bone Marrow-derived Hematopoietic Stem/Progenitor Cells (HSPCs) with pDNA encoding IL-22 (Nanoparticle System, Magnetic cationic liposomes)

Cat. No.: MTS-1222-YF215

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 Mouse Bone Marrow-derived Hematopoietic Stem/Progenitor Cells (HSPCs) carried with pDNA encoding IL-22 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	Bone Marrow-derived Hematopoietic Stem/Progenitor Cells (HSPCs)
Cell Type	Primary Cell
Cell Species	Mouse
Cell Background	High-dose chemotherapy followed by adjuvant autologous hematopoietic stem/progenitor cell (HSPC) transplantation has been tested for the treatment of hematological and solid tumors and can be regarded as a clinical option for certain types of cancer. Scientists have highlighted the important contribution of bone marrow (BM)-derived myeloid cells to tumor angiogenesis.

Cargo Properties

Cargo Type	Cytokine
Specific Cargo	pDNA encoding IL-22
Cargo Common Name	IL22
Cargo Alternative Names	TIFa; IL-21; IL-22; ILTIF; IL-TIF; IL-D110; zcyto18; TIFIL-23
Cargo Full Name	Interleukin 22
Introduction	This gene is a member of the IL10 family of cytokines that mediate cellular inflammatory responses. The encoded protein functions in antimicrobial defense at mucosal surfaces and in tissue repair. This protein also has pro-inflammatory properties and plays a role in the pathogenesis of several intestinal diseases. The encoded protein is a crucial cytokine that regulates host immunity in infectious diseases, including COVID-19 (disease caused by SARS-CoV-2).

UniprotID	Q9GZX6
GeneID	50616
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