SUITE 203, 17 Ramsey Road, Shirley, NY 11967, USA
Tel: 1-631-416-1478 Fax: 1-631-207-8356
info@creative-biolabs.com
macrophage.creative-biolabs.com

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

Cat. No.: MTS-1222-YF219

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 IFN-β 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 IFN-β
Cargo Common Name	IFNB1
Cargo Alternative Names	IFB; IFF; IFNB; IFN-beta
Cargo Full Name	Interferon beta 1
Introduction	This gene encodes a cytokine that belongs to the interferon family of signaling proteins, which are released as part of the innate immune response to pathogens. The protein encoded by this gene belongs to the type I class of interferons, which are important for defense against viral infections. In addition, type I interferons are involved in cell differentiation and anti-tumor defenses. Following secretion in response to a pathogen, type I interferons bind a homologous receptor complex and induce tran

	scription of genes such as those encoding inflammatory cytokines and chemokines. Overactivation of type I interferon secretion is linked to autoimmune diseases. Mice deficient for this gene display several phenotypes including defects in B cell matura tion and increased susceptibility to viral infection.
UniprotID	P01574
GeneID	3456
Cargo Delivery System Typ e	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 i nflammatory 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 ter m.
Handling Notes	Frozen cells should be thawed immediately upon receipt and grown according to ha ndling 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 immediatel y upon receipt and grown according to handling procedure.
Restriction	Research use only