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 IL-5 (Nanoparticle System, Magnetic cationic liposomes)

Cat. No.: MTS-1222-YF217

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 be cause of their intrinsic characteristics. This product is engineered Mouse Bone Marr ow-derived Hematopoietic Stem/Progenitor Cells (HSPCs) carried with pDNA encodi ng IL-5 by Nanoparticle System-Magnetic cationic liposomes. MacroCargo™ product s 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/proge nitor 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 cance r. Scientists have highlighted the important contribution of bone marrow (BM)-derive d myeloid cells to tumor angiogenesis.

Cargo Properties

Cargo Type	Cytokine
Specific Cargo	pDNA encoding IL-5
Cargo Common Name	IL5
Cargo Alternative Names	EDF; TRF; IL-5
Cargo Full Name	Interleukin 5
Introduction	This gene encodes a cytokine that acts as a growth and differentiation factor for bot h B cells and eosinophils. The encoded cytokine plays a major role in the regulation of eosinophil formation, maturation, recruitment and survival. The increased product ion of this cytokine may be related to pathogenesis of eosinophil-dependent inflamm atory diseases. This cytokine functions by binding to its receptor, which is a heterod imer, whose beta subunit is shared with the receptors for interleukine 3 (IL3) and co

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	lony stimulating factor 2 (CSF2/GM-CSF). This gene is located on chromosome 5 wi thin a cytokine gene cluster which includes interleukin 4 (IL4), interleukin 13 (IL13), and CSF2 . This gene, IL4, and IL13 may be regulated coordinately by long-range r egulatory elements spread over 120 kilobases on chromosome 5q31.
UniprotID	P05113
GeneID	3567
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

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