

MacroCargo™ Human THP-1 with Catalase (Nanoparticle System, Cationic block copolymer)

Cat. No.: MTS-1122-YF246

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 Catalase by Nanoparticle System-Cationic block copolymer. 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	Protein
Specific Cargo	Catalase
Cargo Common Name	CAT
Cargo Full Name	Catalase
Introduction	This gene encodes catalase, a key antioxidant enzyme in the body's defense against oxidative stress. Catalase is a heme enzyme that is present in the peroxisome of nearly all aerobic cells. Catalase converts the reactive oxygen species hydrogen peroxide to water and oxygen and thereby mitigates the toxic effects of hydrogen peroxide. Oxidative stress is hypothesized to play a role in the development of many chronic or late-onset diseases such as diabetes, asthma, Alzheimer's disease, systemic lupus erythematosus, rheumatoid arthritis, and cancers. Polymorphisms in this gene have been associated with decreases in catalase activity but, to date, acatalasemia is the only disease known to be caused by this gene.

UniprotID	P04040
GeneID	847
Cargo Delivery System Type	Nanoparticle System
Cargo Delivery Approach	Cationic block copolymer
Nanoparticle Component	PEI-PEG

Product Properties

Applications	Carry nanozymes to the brain
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