Product sheet

MH-S Cells | 300487

General information

Description	MH-S is a murine alveolar macrophage cell line derived from adult mice. These cells are widely used in immunological research due to their robust phagocytic activity and their ability to produce a variety of cytokines in response to pathogenic stimuli. As an alveolar macrophage model, MH-S cells are particularly valuable in studying pulmonary immune responses, lung inflammation, and respiratory infections. Their ability to mimic the behavior of primary alveolar macrophages makes them an indispensable tool for understanding the mechanisms of host defense in the respiratory tract. MH-S cells are also instrumental in the study of macrophage biology and function. They are employed to investigate macrophage activation, differentiation, and the signaling pathways involved in immune responses. Researchers utilize this cell line to explore the interactions between macrophages and pathogens, including bacteria, viruses, and fungi. Additionally, MH-S cells serve as a model to examine the effects of various pharmacological agents on macrophage activity, offering insights into potential therapeutic approaches for respiratory diseases.
Organism	Mouse
Tissue	Lung

Characteristics

Age	7 weeks
Gender	Male
Cell type	Alveolar macrophage
Growth properties	Adherent/suspension

Identifiers / Biosafety / Citation

Citation	MH-S (Cytion catalog number 300487)
Biosafety level	1

Expression / Mutation

Protein expression	interleukin 1 (IL-1)

Antigen expression	CD11b (Mac-1), Class II antigens (I-A), T antigen
Viruses	Transformant: Simian virus (SV40)

Handling

Culture Medium	RPMI 1640, w: 2.1 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)
Medium supplements	Supplement the medium with 10% FBS
Passaging solution	Accutase
Subculturing	Gather the suspension cells in a 15 ml tube and gently wash the adherent cells with PBS lacking calcium and magnesium (use 3-5 ml for T25 flasks and 5-10 ml for T75 flasks). Apply Accutase (1-2 ml for T25 flasks, 2.5 ml for T75 flasks) ensuring full coverage of the cell layer. Allow the cells to incubate at room temperature for 10 minutes. Following incubation, combine and centrifuge both the suspension and adherent cells. After centrifugation, carefully resuspend the cell pellet and transfer the cell suspension into new flasks containing fresh medium.
Freeze medium	CM-1 (Cytion catalog number 800100)

Handling of cryopreserved cultures

1. Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
2. Upon receipt, either store the cryovial immediately at temperatures below -150°C to ensure the preservation of cellular integrity, or proceed to step 3 if immediate culturing is required.
3. For immediate culturing, swiftly thaw the vial by immersing it in a 37°C water bath with clean water and an antimicrobial agent, agitating gently for 40-60 seconds until a small ice clump remains.
4. Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
5. Carefully open the disinfected vial and transfer the cell suspension into a 15 ml centrifuge tube containing 8 ml of room-temperature culture medium, mixing gently.
6. Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
7. Gently resuspend the cell pellet in 10 ml of fresh culture medium. For adherent cells, divide the suspension between two T25 culture flasks; for suspension cultures, transfer all the medium into one T25 flask to promote effective cell interaction and growth.
8. Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

Quality control / Genetic profile / HLA

Sterility

Mycoplasma contamination is excluded using both PCR-based assays and luminescence-based mycoplasma detection methods.

To ensure there is no bacterial, fungal, or yeast contamination, cell cultures are subjected to daily visual inspections.