Product sheet

MS1 Cells | 305172

General information

Description	The Ana-1 cell line is a murine macrophage cell line derived from the ascites of a BALB/c mouse with a methylcholanthrene-induced tumor. This cell line is extensively used in immunological research due to its ability to produce a variety of cytokines and its role in the innate immune response. Ana-1 cells exhibit phagocytic activity and are capable of producing nitric oxide (NO), which is crucial for the cytotoxic response against pathogens and tumor cells. Furthermore, Ana-1 cells have been employed as a model system to study macrophage activation and the signaling pathways involved in immune responses. The cells respond to lipopolysaccharide (LPS) stimulation by upregulating the expression of pro-inflammatory cytokines, making them suitable for investigations into the molecular mechanisms of inflammation and the host defense system. Their compatibility with various immunological assays also makes them valuable for drug screening and for understanding macrophage interactions with other cell types in the immune system.
Organism	Mouse
Tissue	Bone marrow
Synonyms	ANA-1, ANA1

Characteristics

Morphology	Macrophage
Growth properties	Adherent/suspension

Identifiers / Biosafety / Citation

Citation	Ana-1 (Cytion catalog number 305172)
Biosafety level	1

Expression / Mutation

Handling

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.
Split ratio	1:2 to 1:4
Fluid renewal	2 to 3 times per week
Freeze medium	CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)

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. Optionally, skip centrifugation but remove any remaining freezing medium after 24 hours.
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.