Product sheet

AE-1 Cells | 300635

General information

Description	Derived from a fusion of Mus musculus B lymphocytes and myeloma cells, AE-1 hybridoma cells possess lymphoblast morphology and grow in suspension culture. The derivation of AE-1 cells involves immunizing animals with purified human erythrocyte acetylcholinesterase, followed by fusion with Sp2/0-Ag14 myeloma cells. AE-1 cells are specifically designed to target the antigenic determinant of human acetylcholinesterase. They express immunoglobulin and a monoclonal antibody against this enzyme, providing researchers with a powerful tool to investigate the immunological aspects related to acetylcholinesterase in humans. The isotype of AE-1 cells is IgG1, enhancing their binding affinity and functionality. These cells offer remarkable antibody specificity, reacting with human and monkey acetylcholinesterase but binding to a different epitope compared to AE-2 cells. This specificity enables precise targeting and evaluation of acetylcholinesterase-related processes in different species. In the field of immunology, AE-1 cells find various applications. Researchers can utilize them to study immune responses, antibody production, and antigen-antibody interactions. These cells play a crucial role in advancing areas such as vaccine development, autoimmune disease research, and immunotherapy.
Organism	Mouse
Tissue	Hybridoma
Applications	Immunology, production of therapeutic antibodies
Synonyms	AE1

Characteristics

Morphology	Lymphoblast
Cell type	Hybridoma (Spleen, B cell)
Growth properties	Suspension

Identifiers / Biosafety / Citation

Citation	AE-1 (Cytion catalog number 300635)
Biosafety level	1

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Expression / Mutation

Protein expression	Monoclonal antibody isotype: IgG1 against human ACHE (UniProtKB P22303)

Handling

Culture Medium	DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 1.5 g/L NaHCO3, w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)
Medium supplements	Supplement the medium with 10% FBS
Subculturing	Gently homogenize the cell suspension in the flask by pipetting up and down, then take a representative sample to determine the cell density per ml. Dilute the suspension to achieve a cell concentration of 1 x 10^5 cells/ml with fresh culture medium, and aliquot the adjusted suspension into new flasks for further cultivation.
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.