Sp2/0-Ag14

400481

GENERAL INFORMATION

Description

The Sp2/0-Ag14 cell line, commonly referred to as Sp2/0, is a murine myeloma cell line used extensively for the production of monoclonal antibodies. Originating from the BALB/c mouse strain, this cell line was developed by fusing spleen cells from immunized mice with myeloma cells that lack the enzyme hypoxanthine-guanine phosphoribosyltransferase (HGPRT). This deficiency makes Sp2/0 cells unable to survive in HAT (hypoxanthine, aminopterin, thymidine) medium, a feature crucial for hybridoma selection when fused with spleen cells from immunized mice, as only the hybridoma cells can proliferate in this selective medium.
The Sp2/0-Ag14 cell line is characterized by its stability and robustness in cell culture, making it a preferred host for hybridoma production. The absence of immunoglobulin production in these cells is a critical feature because it prevents the secretion of endogenous immunoglobulins that could interfere with the monoclonal antibody produced by the hybridomas. This cell line has been extensively used in scientific research and industrial applications for generating monoclonal antibodies against a wide array of antigens. The antibodies produced are used in research, diagnostics, and therapeutic applications, highlighting the significant utility of the Sp2/0 cell line in biotechnological and pharmaceutical industries.

Tissue	Blood
Disease	B cell hybridoma

Synonyms

- SP2/0-Ag14
- SP2/0-AG14
- SP2/0-ag14
- Sp2/O-Ag14
- SP2/O-Ag14
- Sp2/0-Ag-14
- SP2-0-Ag14
- SP2/0 Ag-14
- SP-2/0-AG14
- Sp 2/0-Ag 14
- Sp2/0
- SP2/0
- Sp2/O
- SP2/O
- SP-2
- SP2
- GM03569
- GM3569
- GM03569B
- GM3569B
- GM03569D

CLASSIFICATION

Organism	Mouse
Growth properties	Adherent and suspension
Biosafety level	1

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CHARACTERISTICS

Morphology	Round cells

IDENTIFIERS

Citation

Sp2/0-Ag14 (Cytion catalog number 400481)

NCBI TaxID	10090
Cellosaurus	CVCL_2199

EXPRESSION AND SUSCEPTIBILITY

Antigen expression

H-2d

Viruses

Tested and found negative for ectromelia virus (mousepox).

HANDLING AND CULTURE

Culture medium

DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 3.7 g/L NaHCO3, w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)

Incubation atmosphere	37°C, 5% CO_2, humidified atmosphere.

Supplements

Supplement the medium with 10% FBS

Subculturing

Collect medium with floating cells in a microcentrifuge tube. Rinse the adherent cells using PBS without calcium and magnesium (3-5 ml PBS for T25, 5-10ml for T75 cell culture flasks). Add Accutase (1-2ml per T25, 2.5ml per T75 cell culture flask), the cell sheet must be covered completely. Incubate at 37 degree Celsius for 10 minutes. Combine the floating cells and the detached cells in one tube, centrifuge at 300xg for 3min. Carefully resuspend the cells in fresh medium and dispense into new flasks which contain fresh medium.

Seeding density	Maintain cell density between 5 x 10^4 and 5 x 10^6 viable cells/ml.
Fluid renewal	2 to 3 times per week

Thawing and culturing

Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
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.
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.
Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
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.
Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
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.
Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

QUALITY CONTROL AND CRYOPRESERVATION

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.

Freeze medium	As a cryopreservation medium, we use complete growth medium (including FBS) + 10% DMSO for adequate post-thaw viability, or CM-1 (Cytion catalog number 800100), which includes optimized osmoprotectants and metabolic stabilizers to enhance recovery and reduce cryo-induced stress.

Storage conditions

For long-term preservation, place vials in vapor-phase liquid nitrogen at about −150 to −196 °C. Storage at −80 °C is acceptable only as a short interim step before transfer to liquid nitrogen.

Shipping conditions

Cryopreserved cell lines are shipped on dry ice in validated, insulated packaging with sufficient refrigerant to maintain approximately −78 °C throughout transit. On receipt, inspect the container immediately and transfer vials without delay to appropriate storage.

DONOR

Breed / subspecies	BALB/c

LEGAL AND SAFETY

Safety precautions

When planning to store a cryovial in liquid nitrogen for future thawing, it is mandatory to adhere to stringent safety measures. Appropriate protective gloves and clothing are essential, and the use of a face mask or safety goggles is required during the transfer of frozen samples to or from the liquid nitrogen tank. This is to mitigate the risk of injury from potential cryovial explosions upon removal, which can result in the projection of sharp fragments.

Disclaimer

Our cells are provided for in vitro laboratory research purposes exclusively and are not intended for clinical or diagnostic use, nor are they to be administered to humans or used for veterinary purposes. Users must adhere to all applicable guidelines and regulations for the handling and use of these cells in a research setting.

Warranty

At Cytion, we stand behind the quality and viability of our products.
We guarantee that our cells will be viable at the start of culture for
60 days after shipment from our facilities.
We assure that all materials conform to the specifications described in the
Certificate of Analysis and/or Product Sheet.
For full details, please refer to our
Warranty Statement.

Material Transfer Agreement required	Yes