Product sheet

SK-MEL-29.1 Cells | 300429

General information

Description	SK-MEL-29.1 is a melanoma cell line that has been extensively studied for its interactions with the immune system, particularly in the context of cytotoxic T-lymphocyte (CTL) recognition. This subclone of the SK-MEL-29 melanoma line has been used in immunological research to define specific antigens recognized by autologous CTLs. These CTLs selectively target melanoma cells expressing certain antigens, while sparing non-cancerous cells. In immunoselection experiments, SK-MEL-29.1 was found to express stable antigens that are important for the specific lysis of melanoma cells by CTLs, providing insights into tumor immunogenicity and immune evasion. One of the key studies involving SK-MEL-29.1 demonstrated its utility in cancer immunotherapy research. CTL clones derived from patient AV were shown to effectively target SK-MEL-29.1 cells, which express multiple antigens simultaneously. This makes SK-MEL-29.1 an important model for understanding how immune responses can be tailored to target specific antigens in melanoma. The ability of these CTL clones to identify and lyse melanoma cells provides valuable information for the development of immunotherapeutic strategies, including the possibility of generating personalized cancer vaccines. Furthermore, SK-MEL-29.1 cells have also been tested in virus-based cancer vaccine development. Infection with the Newcastle disease virus (NDV), a virus with oncolytic and immune-stimulatory properties, demonstrated that SK-MEL-29.1 can be efficiently infected by NDV even after gamma-irradiation, making it a suitable candidate for the development of live cancer vaccines. This infection enhances the immunogenicity of the tumor cells, leading to a more robust anti-tumor immune response, further supporting the use of SK-MEL-29.1 in vaccine research.
Organism	Human
Tissue	Skin
Disease	Melanoma

Characteristics

Age	19 years
Gender	Male
Morphology	Epithelial
Growth properties	Adherent

Regulatory Data

Citation	SK-MEL-29.1 (Cytion catalog number 300429)

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Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_IY54

Biomolecular Data

Handling

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)
Supplements	Supplement the medium with 10% FBS
Dissociation Reagent	Accutase
Subculturing	Remove the old medium from the adherent cells and wash them with PBS that lacks calcium and magnesium. For T25 flasks, use 3-5 ml of PBS, and for T75 flasks, use 5-10 ml. Then, cover the cells completely with Accutase, using 1-2 ml for T25 flasks and 2.5 ml for T75 flasks. Let the cells incubate at room temperature for 8-10 minutes to detach them. After incubation, gently mix the cells with 10 ml of medium to resuspend them, then centrifuge at 300xg for 3 minutes. Discard the supernatant, resuspend the cells in fresh medium, and transfer them into new flasks that already contain fresh medium.
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.

Thawing and Culturing Cells	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.
Incubation Atmosphere	37°C, 5% CO_2, humidified atmosphere.
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.
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.

Quality Control & Molecular Analysis

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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.