Product sheet

WI 38 VA13 subline 2RA Cells | 300421

General information

Description	The WI-38 VA13 subline 2RA, derived from the historic WI-38 cell line originally sourced from the lung tissue of a 3-month-old fetus, represents a key advancement in cell culture technology. The original WI-38 cell line was crucial in developing vaccines for numerous viral diseases, such as measles, mumps, rubella, and hepatitis A. The VA13 subline 2RA is an immortalized variant of this cell line, achieved through transformation with Simian Virus 40 (SV40), a practice common in the development of immortal cell lines which allows for indefinite cell replication beyond the standard senescence point of about 50 population doublings. The incorporation of SV40 into the WI-38 cells to create the VA13 subline 2RA extends the cells' lifespan, providing a more durable model for long-term experiments. This transformation maintains the fundamental properties of the original diploid cells but alters their lifecycle and growth patterns, enabling sustained growth and facilitating extensive studies that were not possible with the finite lifespan of the parent cell line. This makes the VA13 subline particularly useful in ongoing and extensive research areas, including virology, pharmacology, and genetic research, where extended observation periods are necessary.
Organism	Human
Tissue	Lung
Synonyms	WI 38 VA-13 subline 2RA, WI 38VA13 subline 2RA, WI-38 VA13 sub 2 RA, WI38-VA13 subline 2RA, WI38 VA13/2RA, WI38VA13/2RA, VA13 2RA, WI-38 VA13, WI 38 VA 13, WI38-VA13, WI38/VA13, WI38VA13, VA-13, VA13, AG07217, AG7217

Characteristics

Age	3 months gestation
Gender	Female
Ethnicity	Caucasian
Morphology	Epithelial-like
Cell type	Fibroblast
Growth properties	Adherent

Regulatory Data

Citation	WI 38 VA13 subline 2RA (Cytion catalog number 300421)

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Biosafety level	2
NCBI_TaxID	9606
CellosaurusAccession	CVCL_2759

Biomolecular Data

Isoenzymes	G6PD, B
Viruses	Contains Papovavirus
Virus susceptibility	Herpes simplex, vesicular stomatitis (Indiana), poliovirus 2
Reverse transcriptase	Negative
Karyotype	Hyperdiploid, Modal number: 73-78

Handling

Culture Medium	EMEM (MEM Eagle), w: 2 mM L-Glutamine, w: 2.2 g/L NaHCO3, w: EBSS (Cytion article number 820100a)
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.
Seeding density	1×10^4 cells/cm^2
Fluid renewal	1 to 2 times per week

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Post-Thaw Recovery	After thawing, plate the cells at 5 x 10^4 cells/cm^2 and allow the cells to recover from the freezing process and to adhere for at least 48 hours.
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

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.