Product sheet

CERV-196 Cells | 300291

General information

Description	The MRI-H196 cell line, derived from HPV16-positive cervical carcinoma, displays a unique HPV16 transcript expression profile characterized by the presence of the full-length L1 transcript and a marked absence of the E5 full-length RNA. This pattern suggests an integration of the HPV16 genome within the cell line, particularly affecting the E2 region and causing rearrangement of the L1 DNA sequence. The absence of E5 full-length RNA expression indicates a disruption in the transcription of full-length early RNAs, which typically conclude at the polyadenylation signal located downstream of the E5 open reading frame (ORF). Such a disruption is indicative of the integrated state of HPV16 genomes, where the crucial E2 region-key for viral replication and transcription regulation-is often compromised during the integration into the host genome. This disruption potentially impacts the expression of downstream genes, including E5. This integration phenomenon within MRI-H196 cells highlights the complexity of HPV16 genome behavior post-integration, emphasizing the cell line's utility in studying the genomic and transcriptional intricacies associated with HPV integration in cervical carcinomas. Understanding these dynamics is crucial for insights into the mechanisms of oncogenesis and the progression of HPV-associated cancers, making the MRI-H196 cell line a valuable resource for medical and biological research.
Organism	Human
Tissue	Cervix
Disease	Squamous cell carcinoma
Synonyms	Cerv-196, MRI-H-196, MRI-H196

Characteristics

Age	49 years
Gender	Female
Ethnicity	African
Morphology	Epithelial-like
Growth properties	Adherent

Regulatory Data

Citation	CERV-196 (Cytion catalog number 300291)

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Biosafety level	2
NCBI_TaxID	9606
CellosaurusAccession	CVCL_5721

Biomolecular Data

Tumorigenic	Yes, in nude mice
Viruses	HPV-16 positive
Products	Cytokeratine 8, 18, Vimentin

Handling

Culture Medium	DMEM:Ham's F12 (1:1), w: 3.1 g/L Glucose, w: 2.5 mM L-Glutamine, w: 15 mM HEPES, w: 0.5 mM Sodium pyruvate, w: 1.2 g/L NaHCO3 (Cytion article number 820400a)
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 is recommended
Fluid renewal	2 to 3 times per week
Post-Thaw Recovery	After thawing, plate the cells at 5×10^4 cells/cm^2 and allow the cells to recover from the freezing process and to adhere for at least 24 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.

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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.