

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

Identifiers / Biosafety / Citation**Citation**

CERV-196 (Cytion catalog number 300291)

CERV-196 Cells | 300291**Biosafety level** 2**Expression / Mutation****Tumorigenic** Yes, in nude mice**Viruses** HPV-16 positive**Products** Cytokeratine 8, 18, Vimentin**Handling****Culture Medium** DMEM:Ham's F12, w: 3.1 g/L Glucose, w: 1.6 mM L-Glutamine, w: 15 mM HEPES, w: 1.0 mM Sodium pyruvate, w: 1.2 g/L NaHCO₃ (Cytion article number 820400a)**Medium supplements** Supplement the medium with 10% FBS**Passaging solution** 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.**Split ratio** A ratio of 1:2 to 1:6 is recommended**Seeding density** 1×10^4 cells/cm² is recommended**Fluid renewal** 2 to 3 times per week**Freezing recovery** After thawing, plate the cells at 5×10^4 cells/cm² and allow the cells to recover from the freezing process and to adhere for at least 24 hours.**Freeze medium** CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)

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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 $300 \times g$ 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.

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STR profile

Amelogenin: x,x
CSF1PO: 12,13
D13S317: 8,11
D16S539: 12
D5S818: 11
D7S820: 11,12
TH01: 6
TPOX: 8
vWA: 14
D3S1358: 17
D21S11: 30
D18S51: 14
Penta E: 12,16
Penta D: 12
D8S1179: 13
FGA: 20

HLA alleles

A*: 02:xx, 03:01:01
B*: 07:02:01, 51:01:01G
C*: 07:02:01, 15:02:01
DRB1*: 07:01:01, 09:01:02G
DQA1*: 02:01:01, 03:02:01
DQB1*: 02:02:01, 03:03:02
DPB1*: 04:02:01, 11:01:01
E: 01:03:02