Product sheet

CERV-215 Cells | 300292

General information

Description	The CERV-215 cell line, established by Dr. Bodgen at the Mason Research Institute, originates from a primary xenotransplant termed MRI-H215, which has been adapted for in vivo transplantation. This cell line represents an aggressive form of epidermoid carcinoma, categorized as invasive, large cell, non-keratinizing, and poorly differentiated. The Cerv-215 cell line, is a pivotal resource for cancer research, especially in the study of genetic alterations and their roles in cervical carcinogenesis. This cell line is characterized by unique genetic modifications in the Smad4 gene, where specific exons are replaced by sequences from other genomic regions, leading to the expression of truncated and likely non-functional Smad4 proteins. These alterations provide insights into the cell line's oncogenic properties and the molecular mechanisms underlying cervical cancer. Notably, MRI-215 is HPV45 positive, yet its Smad4 gene alterations are independent of HPV integration, suggesting a complex interplay of genetic factors contributing to cancer development beyond viral influences. This cell line serves as an invaluable tool for researchers focusing on the genetic aspects of cancer, the role of Smad4 in tumor progression, and the interaction between human papillomavirus and host cellular mechanisms. MRI-H215 offers a unique platform for exploring the intricacies of cervical cancer at the molecular level, making it an essential component of cancer research laboratories aiming to uncover new therapeutic targets and understand the genetic basis of tumorigenesis.
Organism	Human
Tissue	Cervix
Disease	Carcinoma
Synonyms	Cerv-215, MRI-H-215, MRI-H215

Characteristics

Age	39 years
Gender	Female
Ethnicity	African
Morphology	Epithelial-like
Cell type	Epidermoid

Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	CERV-215 (Cytion catalog number 300292)
Biosafety level	1

Expression / Mutation

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

Handling

Culture Medium	EMEM, w: 2 mM L-Glutamine, w: 1.5 g/L NaHCO3, w: EBSS, w: 1 mM Sodium pyruvate, w: NEAA (Cytion article number 820100c)
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 x 10^4 cells/cm^2 is recommended
Fluid renewal	2 to 3 times per week

Freezing 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 24 hours.
Freeze medium	CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)

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 x 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**: 11,13 **D13S317**: 8,12 **D16S539**: 9,12 **D5S818**: 11,12 **D7S820**: 11,12 **TH01**: 9 **TPOX**: 8 **vWA**: 16 **D3S1358**: 15,18 **D21S11**: 33.2 **D18S51**: 12 **Penta E**: 12,13 **Penta D**: 10 **D8S1179**: 13,14 **FGA**: 19,21
HLA alleles	**A***: 02:01, 03:01 **B***: 11:08, 01.01.1900 16:01 **C***: 03:04, 04:01