**Product sheet**

# CERV-215 Cells | 300292

## General information

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| **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

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| **Age** | 39 years |
| **Gender** | Female |
| **Ethnicity** | African |
| **Morphology** | Epithelial-like |
| **Cell type** | Epidermoid |
| **Growth properties** | Adherent |

## Identifiers / Biosafety / Citation

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

## Expression / Mutation

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

## Handling

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| **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) |

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| **Handling of cryopreserved cultures** | CERV-215 cells are shipped in a deep-frozen state on dry ice. Upon receipt, confirm that the vial remains frozen. For storage, place the cryovial immediately at temperatures below -150 degrees. If you plan to culture the cells immediately, swiftly thaw the vial by shaking it in a 37 degrees water bath with clean water and an antimicrobial agent for 40-60 seconds. Remove the vial once a small ice clump persists, ensuring it remains cold. Proceed with all subsequent steps under aseptic conditions. In a sterile flow hood, disinfect the cryovial with 70% ethanol. Then, gently open the vial and transfer the cell suspension into a 15 ml centrifuge tube pre-filled with 8 ml of room temperature culture medium. Gently mix the cells. For cell separation, centrifuge at 300 x g for 3 minutes and dispose of the supernatant. Skipping centrifugation is optional, although any residual freezing medium should be removed after 24 hours. Resuspend the pellet gently in 10 ml of fresh culture medium and divide between two T25 culture flasks. Follow the subculture protocol for subsequent steps. |

## Quality control / Genetic profile / HLA

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| **Sterility** | Mycoplasma contamination is rigorously 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. |
| **STR profile** | **Amelogenin**: x,x<br>**CSF1PO**: 11,13<br>**D13S317**: 8,12<br>**D16S539**: 9,12<br>**D5S818**: 11,12<br>**D7S820**: 11,12<br>**TH01**: 9<br>**TPOX**: 8<br>**vWA**: 16<br>**D3S1358**: 15,18<br>**D21S11**: 33.2<br>**D18S51**: 12<br>**Penta E**: 12,13<br>**Penta D**: 10<br>**D8S1179**: 13,14<br>**FGA**: 19,21 |
| **HLA alleles** | **A***: 02:01, 03:01<br>**B***: 11:08, 01.01.1900 16:01<br>**C***: 03:04, 04:01 |