# CHO-AA8

305760

## VŠEOBECNÉ INFORMÁCIE

### Popis

The CHO-AA8 cell line is a widely used subclone of Chinese hamster ovary (CHO) cells, originally established for genetic and mutagenesis studies. Derived from suspension-adapted CHO-SC1 cells, AA8 is heterozygous at the adenine phosphoribosyltransferase (APRT) locus, making it highly suitable for forward mutation assays involving both the **hprt** (X-linked) and **aprt** (autosomal) genes. CHO-AA8 exhibits a near-diploid karyotype, with a modal chromosome number of 21, and retains robust growth in both monolayer and suspension culture systems. It is particularly valued for its stability in genetic manipulation and its amenability to chemical mutagenesis using agents such as EMS, ICR-191, and UV radiation.
AA8 has served as the parental line for hundreds of repair-deficient mutant lines used in DNA repair and mutagenesis studies. In particular, large-scale screens have yielded over 200 UV-sensitive clones from AA8, many of which were assigned to distinct complementation groups affecting nucleotide excision repair pathways. Notably, AA8-derived mutants have been instrumental in the functional characterization of human excision repair genes, including **ERCC1** and **ERCC2**, which complement AA8 mutants in groups 1 and 2, respectively. These genetic studies have provided critical insights into the conservation of DNA repair pathways across species and facilitated the isolation of mammalian repair genes via cross-species complementation.
In addition to its foundational role in molecular genetics, CHO-AA8 has been integrated into discussions of CHO cell line diversity and genomic instability. Like other CHO variants, AA8 belongs to the broader category of CHO "quasispecies"-cell populations characterized by high genomic heterogeneity due to decades of laboratory propagation and clonal divergence. While still retaining utility in mechanistic studies and biotechnological applications, such heterogeneity necessitates careful clonal validation when used in high-precision assays or recombinant protein production.

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| **Tkanivo** | Ovary |

### Synonymá

- CHO AA8
- CHO (AA8)
- AA8

## KLASIFIKÁCIA

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| **Organizmus** | Čínsky škrečok |
| **Sex** | Žena |
| **Rastové vlastnosti** | Adhézia a suspenzia |
| **Stav GMO** | GMO-S1 |

### Podrobnosti o štatúte GMO

GMO-S1: This CHO-AA8 line contains stable recombinant modifications suitable for protein production. This classification applies only within Germany and may differ elsewhere.

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| **Úroveň biologickej bezpečnosti** | 1 |

## CHARAKTERISTIKY

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| **Morfológia** | Epithelial-like |
| **Typ bunky** | Epithelial cell of ovary |

**Karyotyp**

Chromosome number = 21

## IDENTIFIKÁTORY

**Citácia**

CHO-AA8 (Cytion catalog number 305760)

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| **Daňové identifikačné číslo NCBI** | 10029 |
| **Cellosaurus** | CVCL_4386 |

## MANIPULÁCIA A KULTIVÁCIA

**Kultivačné médium**

Alpha minimum essential medium without ribonucleosides and deoxyribonucleosides

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| **Inkubačná atmosféra** | 37°C, 5% $CO_2$, humidified atmosphere. |

**Doplnky stravy**

Supplement the medium with 10% FBS

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| **Disociačné činidlo** | Accutase |
| **Hustota výsevu** | 2-4*10^4/cm² |
| **Obnova kvapaliny** | 2 to 3 times per week |

**Rozmrazovanie a kultivácia**

Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
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.
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.
Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
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.
Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
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.
Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

## KONTROLA KVALITY A KRYOKONZERVÁCIA

**Sterilita**

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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| **Mrazové médium** | As a cryopreservation medium, we recommend CM-1 (Cytion catalog number 800100), which includes optimized osmoprotectants and metabolic stabilizers to enhance recovery and reduce cryo-induced stress. |

**Podmienky skladovania**

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.

**Dopravné podmienky**

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.

## DARCA

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| **Vek darcu** | Adult |

## PRÁVNE INFORMÁCIE A BEZPEČNOSŤ

**Bezpečnostné opatrenia**

When planning to store a cryovial in liquid nitrogen for future thawing, it is mandatory to adhere to stringent safety measures. Appropriate protective gloves and clothing are essential, and the use of a face mask or safety goggles is required during the transfer of frozen samples to or from the liquid nitrogen tank. This is to mitigate the risk of injury from potential cryovial explosions upon removal, which can result in the projection of sharp fragments.

**Upozornenie**

Our cells are provided for in vitro laboratory research purposes exclusively and are not intended for clinical or diagnostic use, nor are they to be administered to humans or used for veterinary purposes. Users must adhere to all applicable guidelines and regulations for the handling and use of these cells in a research setting.

**Záruka**

At Cytion, we stand behind the quality and viability of our products.
We guarantee that our cells will be viable at the start of culture for
60 days after shipment from our facilities.
We assure that all materials conform to the specifications described in the
Certificate of Analysis and/or Product Sheet.
For full details, please refer to our
Warranty Statement.

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| **Platia zmluvy s tretími stranami** | Yes |

## PODROBNOSTI O PRODUKTE

**Tabuľka zloženia**