CHO-AA8

305760

INFORMACIÓN GENERAL

Descripción

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.

Pañuelo de papel	Ovary

Sinónimos

- CHO AA8
- CHO (AA8)
- AA8

CLASIFICACIÓN

Organismo	Hámster chino
Sexo	Mujer
Propiedades de crecimiento	Adherente y en suspensión
Situación respecto a los OMG	GMO-S1

Detalles sobre la presencia de OMG

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

Nivel de bioseguridad	1

CARACTERÍSTICAS

Morfología	Epithelial-like
Tipo de célula	Epithelial cell of ovary

Cariotipo

Chromosome number = 21

IDENTIFICADORES

Referencia

CHO-AA8 (Cytion catalog number 305760)

N.º de identificación fiscal del NCBI	10029
Cellosaurus	CVCL_4386

MANEJO Y CULTIVO

Medio de cultivo

Alpha minimum essential medium without ribonucleosides and deoxyribonucleosides

Atmósfera de incubación	37°C, 5% CO_2, humidified atmosphere.

Suplementos

Supplement the medium with 10% FBS

Reactivo de disociación	Accutase
Densidad de siembra	2-4*10^4/cm²
Renovación de fluidos	2 to 3 times per week

Descongelación y cultivo

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.

CONTROL DE CALIDAD Y CRIOPRESERVACIÓN

Esterilidad

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.

Medio de congelación	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.

Condiciones de almacenamiento

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.

Condiciones de envío

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.

DONANTE

Edad del donante	Adult

ASPECTOS LEGALES Y DE SEGURIDAD

Medidas de seguridad

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.

Aviso legal

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.

Garantía

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.

Se aplican los acuerdos con terceros	Yes

DETALLES DEL PRODUCTO

Tabla de composición