

CHO-FOLR1 Cells | 305416

General information

Description

Disclaimer: The prices displayed for cell lines are exclusively for not-for-profit customers. If you represent a commercial entity, please contact us for alternative pricing.

The CHO-FOLR1 cell line is a stable recombinant CHO (Chinese Hamster Ovary) cell line engineered to express the FOLR1 receptor at a medium-high level, approximately 15,000 molecules per cell. This cell line was developed using advanced landing pad technology, which ensures precise and reproducible integration of the FOLR1 gene at a specific, pre-validated genomic locus. FOLR1, also known as Folate Receptor Alpha (FR α) or FBP, is a GPI-anchored membrane protein with high affinity for folate, facilitating its transport into cells. FOLR1 is significantly overexpressed in various epithelial cancers, including ovarian, breast, and non-small cell lung cancers, making it a valuable target for cancer immunotherapies, including CAR T cell therapies and bispecific antibodies.

The expression of FOLR1 in this cell line was confirmed using flow cytometry with a target-specific antibody, ensuring reliable and consistent receptor density across the cell population.

Organism Chinese hamster

Tissue Ovary

Characteristics

Age Adult

Gender Female

Morphology Epithelial-like

Growth properties Adherent/suspension

Regulatory Data

Citation CHO-FOLR1 (Cytion catalog number 305416)

Biosafety level 1

NCBI_TaxID 10029

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GMO Status GMO-S1: This CHO line contains a stable FOLR1 expression construct for analyses of folate receptor binding and therapeutic targeting. This classification applies only within Germany and may differ elsewhere.

Biomolecular Data

Receptors expressed FOLR1 (Folate Receptor Alpha (FR α) or FBP)

Handling

Culture Medium

For adherent cultures: DMEM:Ham's F12 (1:1), w: 3.1 g/L Glucose, w: 2.5 mM L-Glutamine, w: 15 mM HEPES, w: 0.5 mM Sodium pyruvate, w: 1.2 g/L NaHCO₃ (Cytion article number 820400a)

For suspension cultures: CHO Growth Medium A (from InSCREENeX; InSCREENeX catalog number INS-ME-1039)

Supplements For adherent cultures: Supplement the medium with 5% FBS. Add Geneticin (G418-Sulfat) to achieve a final concentration of 0.5 mg/mL.

Dissociation Reagent For adherent cultures: Trypsin-EDTA

Subculturing For routine adherent cell culture: Aspirate the old culture medium from the adherent cells, and wash them with PBS to remove any remaining medium. After aspirating the PBS, add the appropriate volume of Trypsin/EDTA solution based on the culture vessel size (e.g., 1 ml for a T25 flask, 3 ml for a T75 flask) and incubate at room temperature or 37°C for 5-10 minutes, or until the cells detach. Monitor detachment under a microscope, and gently tap the vessel if necessary to release the cells. Once detached, add complete medium to inactivate the Trypsin/EDTA, gently resuspend the cells, and transfer an aliquot of the cell suspension into a new culture vessel containing fresh medium. Place the vessel in an incubator set to 37°C with 5% CO₂, and change the medium every 2-3 days.

Fluid renewal 2 to 3 times per week

Post-Thaw Recovery After thawing, split the cells at a ratio of 1:2 to 1:3 in T25 flasks and allow the cells to recover from the freezing process and to adhere (for adherent cultures) for at least 24 hours.

Freeze medium As a cryopreservation medium, we use complete growth medium (including FBS) + 10% DMSO for adequate post-thaw viability, or CM-1 (Cytion catalog number 800100), which includes optimized osmoprotectants and metabolic stabilizers to enhance recovery and reduce cryo-induced stress.

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Thawing and Culturing Cells

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.
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.

Incubation Atmosphere

37°C , 5% CO_2 , humidified atmosphere.

Flask Coating

None

Shipping Conditions

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.

Storage Conditions

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.

Quality Control & Molecular Analysis

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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.