

CHO-EGFR Cells | 305977

General information

Description

Disclaimer: The prices displayed for cell lines are exclusively for academic/not-for-profit customers. For commercial entities the price is approximately €6,250.

If you represent a commercial entity or are unsure which category applies, please [contact us](#).

CHO-EGFR cells are recombinant Chinese hamster ovary (CHO) cells engineered to stably express human epidermal growth factor receptor (EGFR/ERBB1/HER1), a receptor tyrosine kinase belonging to the ErbB family. EGFR regulates key cellular processes including proliferation, survival, migration, and differentiation through activation of downstream signaling pathways such as MAPK/ERK, PI3K/AKT, and JAK/STAT. Aberrant EGFR expression, amplification, or mutation is frequently associated with multiple solid tumors, including non-small cell lung cancer, colorectal cancer, glioblastoma, and head and neck squamous cell carcinoma. Stable CHO-EGFR models provide a controlled platform for investigating receptor biology and therapeutic targeting.

CHO-EGFR cells are widely used in oncology research and biologics development for characterization of anti-EGFR monoclonal antibodies, tyrosine kinase inhibitors, bispecific antibodies, antibody-drug conjugates, and engineered immune cell therapies. These cells support quantitative assessment of ligand binding, receptor activation, internalization, phosphorylation status, downstream signaling, and therapeutic blockade. They are also commonly employed in flow cytometry assays, receptor occupancy studies, high-throughput screening, and potency testing workflows. Because CHO cells provide robust growth characteristics and relatively low endogenous expression of human receptor systems, they offer a reproducible background for recombinant EGFR expression and standardized assay development.

Organism

Chinese hamster

Tissue

Ovary

Disease

Chinese hamster ovary, non-neoplastic; genetically engineered for EGFR surface expression

Applications

Antibody screening; EGFR-targeted therapy development; ADCC/CDC assays; lung/colorectal cancer research; flow cytometry

Characteristics

Age

Adult

Gender

Female

Morphology

Epithelial-like

Cell type

Epithelial cell of ovary

CHO-EGFR Cells | 305977

Growth properties	Adherent/suspension
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Regulatory Data

Citation	CHO-EGFR (Cytion catalog number 305977)
Biosafety level	1
NCBI_TaxID	10029
CellosaurusAccession	CVCL_A8W3
GMO Status	GMO-S1: This CHO cell line contains an EGFR expression cassette supporting receptor-function analyses. This classification applies only within Germany and may differ elsewhere.

Biomolecular Data

Surface antigens	EGFR (HER1/ErbB1/CD340)
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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
Doubling time	approx. 14-16 hours

CHO-EGFR Cells | 305977

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% CO ₂ , and change the medium every 2-3 days.
Split ratio	1 to 5
Seeding density	2 to 5 x 10 ⁴ cells/cm ²
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.

CHO-EGFR Cells | 305977

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 x 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% CO₂, humidified atmosphere.

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

CHO-EGFR Cells | 305977

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.