

CHO | 603479

General information

Description	CHO cells are a widely used cell line for the production of recombinant proteins. They are derived from Chinese hamster ovary cells and are characterized by their ability to grow in suspension and to produce high yields of recombinant proteins. CHO cells are commonly used for the production of monoclonal antibodies, vaccines, and other biopharmaceuticals. They are also used for the study of cellular processes and for the development of new drugs. CHO cells are available in various strains, including CHO-K1, CHO-S, and CHO-DG44. The CHO-K1 strain is the most commonly used and is characterized by its high growth rate and ability to produce high yields of recombinant proteins. The CHO-S strain is a derivative of CHO-K1 and is characterized by its ability to produce high yields of recombinant proteins with high glycosylation levels. The CHO-DG44 strain is a derivative of CHO-K1 and is characterized by its ability to produce high yields of recombinant proteins with low glycosylation levels. CHO cells are typically grown in DMEM medium supplemented with 10% fetal bovine serum (FBS) and 1% penicillin-streptomycin. They are maintained in a humidified atmosphere of 5% CO ₂ at 37°C. CHO cells are used for a wide range of applications, including the production of recombinant proteins, the study of cellular processes, and the development of new drugs. They are also used for the production of vaccines and for the study of drug toxicity.
Organism	Chinese hamster ovary
Tissue	Embryonic
Applications	Production of recombinant proteins, study of cellular processes, development of new drugs, production of vaccines, study of drug toxicity.
Synonyms	CHO cells, CHO-ori

Cell characteristics

Age	Passage 1-10
Gender	Male
Morphology	Epithelial cells
Growth properties	Adherent, clonal

Documentation and references

Citation	CHO (Cytion 603479)
Biosafety level	1
NCBI_TaxID	10029
CellosaurusAccession	CVCL_0213

Product sheet

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Cell line: CHO-K1

Cell ID: 603479

Culture Medium	Ham's F12, w: 1.0 mM β -mercaptoethanol, w: 1.0 mM β -mercaptoethanol, w: 1.1 g/L NaHCO ₃ (Cytion 820600a)
Supplements	10% FBS
Dissociation Reagent	Trypsin
Subculturing	Cells are grown in T25 flasks. When cells reach 80-90% confluency, they are trypsinized and seeded into new flasks. The medium is replaced every 3-5 days.
Seeding density	3×10^4 cells per flask
Fluid renewal	2-3 times per week
Post-Thaw Recovery	Cells are thawed in a water bath at 37°C and seeded into a flask with pre-warmed medium. The medium is replaced every 24 hours.
Freeze medium	DMEM + 10% FBS + 10% DMSO

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Thawing and
Culturing Cells

1. Thaw the cells quickly in a water bath at 37°C. Remove the cells from the bath and centrifuge at 300 x g for 3 minutes. Discard the supernatant and resuspend the cells in 1 ml of complete medium.
2. Seed the cells into a 25 cm² flask containing 10 ml of complete medium. Incubate the cells at 37°C in 5% CO₂ atmosphere.
3. When the cells reach confluence, passage them into a new flask. Split ratio: 1:3.
4. The cells should reach confluence within 3-5 days. If the cells do not reach confluence, check the medium and the incubation conditions.
5. For long-term storage, harvest the cells and freeze them in liquid nitrogen. Store the cells at -80°C.
6. Thaw the cells quickly in a water bath at 37°C. Remove the cells from the bath and centrifuge at 300 x g for 3 minutes. Discard the supernatant and resuspend the cells in 1 ml of complete medium.
7. Seed the cells into a 25 cm² flask containing 10 ml of complete medium. Incubate the cells at 37°C in 5% CO₂ atmosphere.
8. When the cells reach confluence, passage them into a new flask. Split ratio: 1:3.

Incubation
Atmosphere

37°C, 5% CO₂, humidified

Flask Coating

Not required

Freezing
Procedure

For long-term storage, harvest the cells and freeze them in liquid nitrogen. Store the cells at -80°C.

Shipping
Conditions

For shipping, harvest the cells and freeze them in liquid nitrogen. Store the cells at -80°C.

Storage
Conditions

For long-term storage, harvest the cells and freeze them in liquid nitrogen. Store the cells at -80°C.

Sterility

The cells are supplied as a frozen cell suspension in a PCR tube. The cells are sterile and free of mycoplasma contamination. The cells are tested for mycoplasma contamination using PCR.