Product sheet

CHO-IL2RA Cells | 305980

Description	**Disclaimer: The prices displayed for cell lines are exclusively for academic/not-for-profit customers. For commercial entitites the price is approximately €6,250.** **If you represent a commercial entity or are unsure which category applies, please contact us.** CHO-IL2RA cells are recombinant Chinese hamster ovary (CHO) cells engineered to stably express human interleukin-2 receptor alpha (IL-2Rα; CD25/IL2RA), a high-affinity cytokine receptor subunit involved in regulation of T-cell activation and immune homeostasis. CD25 forms part of the heterotrimeric IL-2 receptor complex together with IL-2Rβ (CD122) and the common gamma chain (CD132), enabling high-affinity binding of interleukin-2 and activation of downstream JAK/STAT signaling pathways. Physiologically, CD25 is highly expressed on activated T lymphocytes and regulatory T cells (Tregs), and aberrant expression has also been reported in several hematologic malignancies and inflammatory disorders. CHO-IL2RA cells are widely used in immunology and therapeutic development workflows for characterization of anti-CD25 monoclonal antibodies, cytokine-based therapeutics, bispecific antibodies, and engineered immune cell targeting strategies. The stable recombinant expression system enables quantitative assessment of ligand binding, receptor occupancy, antibody affinity, and receptor internalization. These cells are also valuable for flow cytometry assay development, potency testing, cell-based binding assays, and high-throughput screening applications involving IL-2 pathway modulation. In addition, CHO-IL2RA models can support studies examining selective targeting of activated T cells or regulatory T-cell-associated mechanisms in autoimmunity, transplantation, and cancer immunotherapy.
Organism	Chinese hamster
Tissue	Ovary
Disease	Chinese hamster ovary, non-neoplastic; genetically engineered for IL2RA (CD25) surface expression
Applications	Antibody screening; IL2RA-targeted therapy development; T-cell biology research; autoimmune disease research; flow cytometry
Age	Adult
Gender	Female
Morphology	Epithelial-like
Cell type	Epithelial cells

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Growth properties	Adherent/suspension

Citation	CHO-IL2RA (Cytion catalog number 305980)
Biosafety level	1
NCBI_TaxID	10029
CellosaurusAccession	CVCL_A8W8
GMO Status	GMO-S1: This CHO cell line contains an IL2RA expression cassette supporting receptor-function analyses. This classification applies only within Germany and may differ elsewhere.

Surface antigens	IL2RA (CD25)

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

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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.

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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 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.

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.

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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.