Product sheet

CHO-STEAP1 Cells | 305983

General information

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-STEAP1 cells are recombinant Chinese hamster ovary (CHO) cells engineered to stably express human six-transmembrane epithelial antigen of the prostate 1 (STEAP1), a cell surface protein highly associated with multiple solid tumors. STEAP1 is a member of the STEAP family of metalloreductases and is characterized by six transmembrane domains with localization predominantly at the plasma membrane and intracellular vesicular compartments. Although its precise physiological function remains incompletely understood, STEAP1 has been implicated in intercellular communication, metal ion homeostasis, redox regulation, and tumor cell proliferation. Elevated STEAP1 expression has been reported in prostate cancer, Ewing sarcoma, bladder cancer, lung cancer, and several other malignancies, making it an important target in oncology-focused therapeutic development. CHO-STEAP1 cells are widely used for development and characterization of STEAP1-targeted therapeutics, including monoclonal antibodies, antibody-drug conjugates, bispecific T-cell engagers, radioligand therapies, and engineered immune cell approaches such as CAR-T and CAR-NK therapies. The stable recombinant expression system enables quantitative analysis of antibody binding affinity, receptor occupancy, antigen density, internalization behavior, and target-specific cytotoxicity. These cells are also valuable for flow cytometry assay development, epitope mapping, high-throughput screening, and validation of STEAP1-targeted imaging agents. Because CHO cells provide a robust and relatively low-background platform for recombinant protein expression, CHO-STEAP1 models are frequently used for standardized assay development and preclinical therapeutic evaluation.
Organism	Chinese hamster
Tissue	Ovary

Characteristics

Morphology	Epithelial-like
Growth properties	Adherent/suspension

Regulatory Data

Citation	CHO-STEAP1 (Cytion catalog number 305983)
Biosafety level	1

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NCBI_TaxID	10029

Biomolecular Data

Receptors expressed	STEAP1

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% CO_2, 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.

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% CO_2, 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

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.