

Description

Recombinant CEACAM6 CHO K1 cell line stably expressing the full-length human CEACAM6 receptor (accession number: NM_002483). Surface expression of hCEACAM6 was confirmed by flow cytometry. Each stable clonal cell line was selected for high level of hCEACAM6 expression compared to its parental CHO K1 cells.

Background

CEA cell adhesion molecule 6 (CEACAM6, also known as CD66c) is a glycosyl phosphatidyl inositol (GPI)-anchored cell surface glycoprotein that serves as a cell adhesion protein. CEACAM6 is considered a clinical biomarker and candidate therapeutic target in melanoma, lung, colorectal, and pancreatic cancers. It may play a role in tumor progression through regulation of cell migration, invasion, and anoikis, promoting metastasis. It is also known to affect the sensitivity of tumor cells to adenovirus infection, and it serves as a receptor for E. coli adhesion to the surface of intestinal cells in patients with Crohn's disease.

Application

- Screen antibodies for immunotherapy research
- Characterize CEACAM6 antibodies and ligands
- Study the biological function of CEACAM6

Materials Provided

Components	Format
2 vials of frozen cells	Each vial contains 2×10^6 cells in 1 ml of cell freezing medium (BPS Bioscience, #79796)

Parental Cell Line

CHO-K1 cells, Chinese Hamster Ovary, epithelial-like cells, adherent

Mycoplasma Testing

The cell line has been screened to confirm the absence of Mycoplasma species.

Materials Required but Not Supplied

These materials are not supplied with the cell line but are necessary for cell culture and cellular assays. BPS Bioscience's reagents are validated and optimized for use with this cell line and are highly recommended for best results. Media components are provided in the Media Formulations section below.

Media Required for Cell Culture

Name	Ordering Information
Thaw Medium 3	BPS Bioscience #60186
Growth Medium 3J	BPS Bioscience #79974

Storage Conditions

Cells are shipped in dry ice and should immediately be thawed or stored in liquid nitrogen upon receipt. Do not use a -80°C freezer for long term storage. Contact technical support at support@bpsbioscience.com if the cells are not frozen in dry ice upon arrival.

Media Formulations

For best results, it is *highly recommended* to use these validated and optimized media from BPS Bioscience. Other preparations or formulations of media may result in suboptimal performance.



Note: Thaw Media do *not* contain selective antibiotics. However, Growth Media *do* contain selective antibiotics, which are used for maintaining the presence of the transfected gene(s) over passages. Cells should be grown at 37°C with 5% CO₂. BPS Bioscience's cell lines are stable for at least 15 passages when grown under proper conditions.

Media Required for Cell Culture

Thaw Medium 3 (BPS Bioscience #60186):

F-12K medium supplemented with 10% FBS, 1% Penicillin/Streptomycin.

Growth Medium 3J (BPS Bioscience #79974):

F-12K medium supplemented with 10% FBS, 1% Penicillin/Streptomycin plus 5 µg/ml of puromycin

Cell Culture Protocol

Cell Thawing

1. Swirl the vial of frozen cells for approximately 60 seconds in a 37°C water bath. As soon as the cells are thawed (it may be slightly faster or slower than 60 seconds), quickly transfer the entire contents of the vial to a tube containing 10 ml of pre-warmed Thaw Medium 3.
Leaving the cells in the water bath at 37°C for too long will result in rapid loss of viability.
2. Immediately spin down the cells at 300 x g for 5 minutes, remove the medium and resuspend the cells in 5 ml of pre-warmed Thaw Medium 3.
3. Transfer the resuspended cells to a T25 flask or T75 flask and incubate at 37°C in a 5% CO₂ incubator.
4. After 24 hours of culture, check for cell attachment and viability. Change medium to fresh Thaw Medium 3 and continue growing in a 5% CO₂ incubator at 37°C until the cells are ready to passage.
5. Cells should be passaged before they are fully confluent. At first passage and subsequent passages, use Growth Medium **3J containing Puromycin**.

Cell Passage

1. Aspirate the medium, wash the cells with phosphate buffered saline (PBS), and detach the cells from the culture vessel with 0.25% Trypsin/EDTA.
2. Once the cells have detached, add Growth Medium 3J and transfer to a tube. Spin down cells at 300 x g for 5 minutes, remove the medium and resuspend the cells in Growth Medium **3J (contains Puromycin)**. Seed into new culture vessels at the desired sub-cultivation ratio of 1:10 to 1:20 weekly or twice per week.

Cell Freezing

1. Aspirate the medium, wash the cells with phosphate buffered saline (PBS), and detach the cells from the culture vessel with 0.25% Trypsin/EDTA.
2. Once the cells have detached, add Growth Medium 3J and count the cells.
3. Spin down the cells at 300 x g for 5 minutes, remove the medium and resuspend the cells in 4°C Freezing Medium (BPS Bioscience #79796, or 10% DMSO + 90% FBS) at ~2 x 10⁶ cells/ml.
4. Dispense 1 ml of cell aliquots into cryogenic vials. Place the vials in an insulated container for slow cooling and store at -80°C overnight.

- Transfer the vials to liquid nitrogen the next day for storage.



Note: It is recommended to expand the cells and freeze at least 10 vials at an early passage for future use.

Validation Data

Cell surface expression of human CEACAM6 in CHO K1 cells was confirmed by flow cytometry.

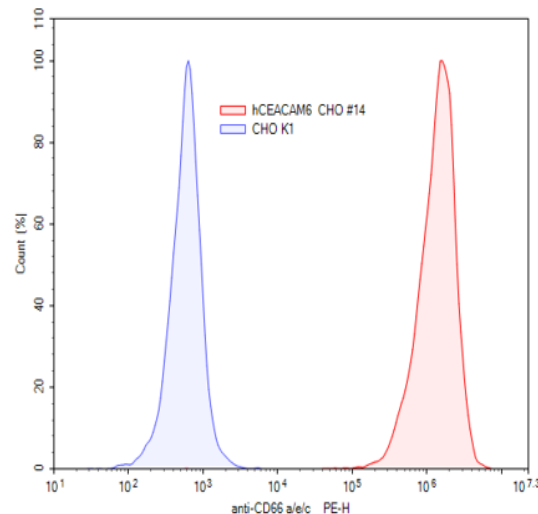


Figure 1. Flow cytometry analysis of cell surface expression of hCEACAM6 in CHO K1 cells. CEACAM6-CHO K1 cells or control CHO K1 cells were stained with PE-labeled anti-human CD66 a/c/e antibody (Biolegend #342303) and analyzed by flow cytometry. Y-axis is the % cell number. X-axis is the intensity of PE.

Sequence

Human CEACAM6 sequence (accession number NM_002483)

MGPPSAPP CRLHVPWKEVLLTASLLTFWNPPTAKLTIESTPFNVAEGKEVLLAHNLPQNRIGYSWYKGERVDGNSLIVGYVIGT
 QQATPGPAYSGRETIYPNASLLIQNVTQNDTGFYTLQVIKSDLVNEEATGQFHVYPELPKPSISSNNSNPVEDKDAVAFTCEPEVQ
 NTTYLWWVNGQSLPVPRLQLSNGNMTLTLSSVKRNDAGSYECEIQNPASANRSDPVTLNVLVYGPDPVPTISPKANYRPGENLN
 LSCHAASNPPAQYSWFINGTFQQTQELFIPNITVNNSGSYMCQAHNSATGLNRTTVMITVSGSAPVLSAVATVGITIGVLARV
 ALI

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Troubleshooting Guide

Visit bpsbioscience.com/cell-line-faq for detailed troubleshooting instructions. For all further questions, please email support@bpsbioscience.com.

Related Products

Products	Catalog #	Size
CEACAM6 Lentivirus	78720	500 µl x 2
CEACAM5 Lentivirus	78719	500 µl x 2
CEACAM5 CHO Cell Line	78704	2 vials