SZABO SCANDIC

Part of Europa Biosite

Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

Weitere Information auf den folgenden Seiten!
See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

Description

PTK7 CHO Cell Line is a CHO-K1 cell line expressing PTK7 (Protein Tyrosine Kinase 7) (NM_002821.5) under the control of a cytomegalovirus (CMV) promoter. This cell line was generated by lentiviral transduction followed by puromycin selection and limited dilution. Individual clones were screened for PTK7 expression levels by flow cytometry and a high expressing clone was selected to generate this cell line.

Background

PTK7 (Protein Tyrosine Kinase 7) is a pseudokinase of the receptor tyrosine kinase (RTK) family of Wnt receptors and shares a common ligand (Wnt5a) with fellow pseudokinases ROR1 (receptor tyrosine kinase-like orphan receptor 1) and ROR2. Despite the lack of a functional kinase domain PTK7 still contributes to downstream signaling of Wnt5a through its interaction with LRP6 (low-density lipoprotein receptor-related protein 6) and FZD (frizzled) receptors. PTK7 expression contributes to oncogenic potential in a variety of solid tumors including ovarian, colorectal and breast cancers and neuroblastoma. The cell surface expression and oncogenic function of PTK7 in a variety of tumor types makes it a compelling target for both CAR (chimeric antigen receptor)-T cell and antibody based therapeutic development. The use of cofetuzumab pelidotin, an ADC (antibody-drug conjugate) based on auristatin and targeting PTK7, showed promise in the treatment of ovarian cancer, NSCLC (non-small cell lung cancer) and TNBC (triple-negative breast cancer), showing the potential of targeting PTK7 in oncology.

Application

- Screen therapeutic antibodies and antibody drug conjugates (ADCs) targeting PTK7
- Co-culture assays with PTK7 targeting CAR-T cells

Materials Provided

Components	Format
2 vials of frozen cells	Each vial contains >1 x 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 3L	BPS Bioscience # 78104

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, the use of validated and optimized media from BPS Bioscience is *highly recommended*. 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 to maintain selective pressure on the cell population expressing the gene of interest. Cells should be grown at 37°C with 5% CO_2. BPS Bioscience's cell lines are stable for at least 10 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 3L (BPS Bioscience # 78104):
F-12K medium supplemented with 10% FBS, 1% Penicillin/Streptomycin plus 6 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.

   Note: 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% CO_2 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% CO_2 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 3L.

Cell Passage

1. Aspirate the medium, wash the cells with Phosphate Buffered Saline (PBS) without Ca^{2+}/Mg^{2+}, and detach the cells from the culture vessel with 0.25% Trypsin/EDTA.

2. Once the cells have detached, add Growth Medium 3L and transfer to a tube.

3. Spin down cells at 300 *x g* for 5 minutes, remove the medium and resuspend the cells in Growth Medium 3L.

4. Seed into new culture vessels at the recommended sub-cultivation ratio of 1:8 to 1:10 twice per week.

Cell Freezing

1. Aspirate the medium, wash the cells with PBS without Ca^{2+}/Mg^{2+}, and detach the cells from the culture vessel with 0.25% Trypsin/EDTA.

2. Once the cells have detached, add Growth Medium 3L 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 Cell Freezing Medium (BPS Bioscience #79796) at ~2 x 10^6 cells/ml.

4. Dispense 1 ml of cell suspension into each cryogenic vial. Place the vials in an insulated container for slow cooling and store at -80°C overnight.

5. Transfer the vials to liquid nitrogen the next day for long term storage.

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

A. Validation Data

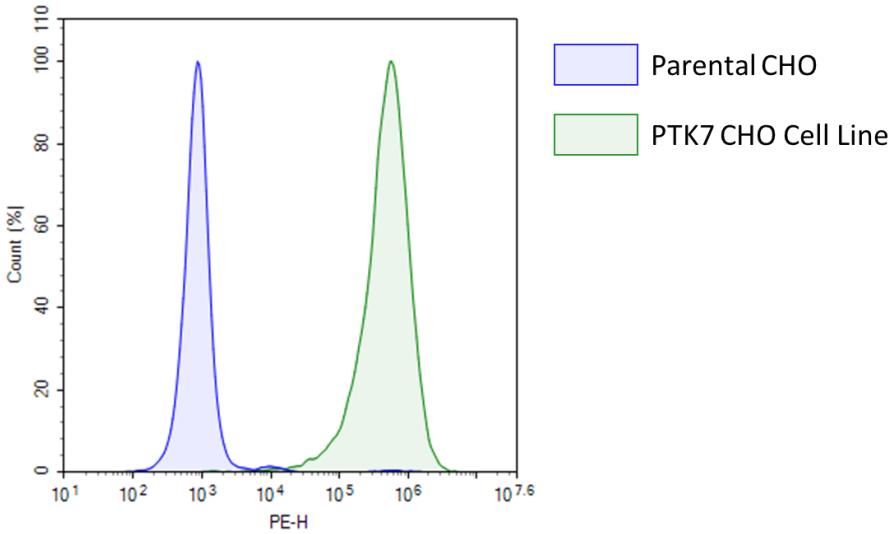

Figure 1: Expression of PTK7 in PTK7 CHO Cell Line.
PTK7 CHO Cell Line (green) or control CHO cells (blue) were stained with PTK7 (CCK-4) Antibody, anti-human, PE (Miltenyi Biotech #130-122-923) and analyzed by flow cytometry. Y-axis is the % cell number. X-axis is the intensity of PE.

Data shown is representative. For lot-specific information, please contact BPS Bioscience, Inc. at support@bpsbioscience.com.

Sequence

Human PTK7 sequence (NM_002821.5)

MGAARGSPARPRRLPLLSVLLLPLLGGTQTAIVFIKQPSSQDAQGRRALLRCEVEAPGPVHVYWLLDGAPVQDTERRFAQGSSLS
FAAVDRLQDSGTFQCVARDDVTGEEARSANASFNIKWIEAGPVVLKHPASEAEIQPQTQVTLRCHIDGHPRPTYQWFRDGTPLS
DGQSNHTVSSKERNLTLRPAGPEHSGLYSCCAHSAFGQACSSQNFTLSIADESFARVVLAPQDVVVARYEEAMFHCQFSAQPPP
SLQWLFEDETPITNRSRPPHLRRATVFANGSLLLTQVRPRNAGIYRCIGQGQRGPPIILEATLHLAEIEDMPLFEPRVFTAGSEERVT
CLPPKGLPEPSVWWEHAGVRLPTHGRVYQKGHELVLANIAESDAGVYTCHAANLAGQRRQDVNITVATVPSWLKKPQDSQLEE
GKPGYLDCLTQATPKPTVVWYRNQMLISEDSRFEVFKNGTLRINSVEVYDGTWYRCMSSTPAGSIEAQARVQVLEKLKFTPPPQP
QQCMEFDKEATVPCSATGREKPTIKWERADGSSLPEWVTDNAGTLHFARVTRDDAGNYTCIASNGPQGQIRAHVQLTVAVFIT
FKVEPERTTVYQGHTALLQCEAQGDPKPLIQWKGKDRILDPTKLGPRMHIFQNGSLVIHDVAPEDSGRYTCIAGNSCNIKHTEAPL
YVVDKPVPEESEGPGSPPPYKMIQTIGLSVGAAVAYIIAVLGLMFYCKKRCKAKRLQKQPEGEEPEMECLNGGPLQNGQPSAEIQ
EEVALTSLGSGPAATNKRHSTSDKMHFPRSSLQPITTLGKSEFGEVFLAKAQGLEEGVAETLVLVKSLQSKDEQQQLDFRRELEMF
GKLNHANVVRLLGLCREAEPHYMVLEYVDLGDLKQFLRISKSKDEKLKSQPLSTKQKVALCTQVALGMEHLSNNRFVHKDLAARN
CLVSAQRQVKVSALGLSKDVYNSEYYHFRQAWVPLRWMSPEAILEGDFSTKSDVWAFGVLMWEVFTHGEMPHGGQADDEVL
ADLQAGKARLPQPEGCPSKLYRLMQRCWALSPKDRPSFSEIASALGDSTVDSKP

References

Dessaux C., *et al.,* 2024 *Oncogene* 43, 1973–1984.
Jie Y., *et al.,* 2021 *Front. Immunol*. 12:665970.
Lee J.Y., *et al.,* 2023 *Cell Rep Med* 4(6):101091.
Maitland M.L., *et al.,* 2021 *Clin Cancer Res* 27 (16): 4511–4520.

License Disclosure

Visit bpsbioscience.com/license for the label license and other key information about this product.

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*
ROR1 CHO Recombinant Cell Line (High, Medium, or Low Expression)	79609	2 vials
HER2 (ERBB2) CHO Recombinant Cell Line	79612	2 vials
TROP2 – CHO-K1 Recombinant Cell Line	78099	2 vials
ROR1, GST-Tag Recombinant	40396	10 µg
ROR2, GST-Tag Recombinant	40296	10 µg
ROR1, Fc-Fusion (IgG1)-Avi-Tag, PE-Labeled Recombinant	100995	50 µg/1 mg

Version 080124