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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

Recombinant clonal stable CHO cell line constitutively expressing full length human CD38 protein (also known as ADPRC1, Genbank accession #NM_001775) and human BCMA protein (B-Cell Maturation Antigen or CD269, GenBank accession #NM_001192). This cell line was derived from our CHO-K1 Luciferase cells (BPS Bioscience, #79725), therefore it also constitutively expresses the firefly luciferase reporter. Surface expression of CD38 and BCMA was confirmed by flow cytometry.

Background

The CD38 protein is a dimeric, non-lineage-restricted, type II transmembrane glycoprotein that synthesizes and hydrolyzes the second messengers cyclic ADP-ribose and NADP. CD38 is highly expressed by lymphoid and myeloid cells, particularly plasma cells. Increased CD38 expression on chronic lymphocytic leukemia (CLL) cells is linked to aggressive disease features and poor clinical outcome. CD38 is used as a prognostic marker for patients with CLL and multiple myeloma (MM), and is an ideal target for immunotherapy in CLL and MM.

B-Cell Maturation Antigen (BCMA), also known as CD269, is a cell surface receptor of the TNF receptor superfamily that recognizes B-Cell Activating Factor (BAFF). BCMA is preferentially expressed on mature B-lymphocytes and Multiple Myeloma (MM) cells. BCMA is a highly attractive target antigen for immunotherapy, not only because of its restricted expression in nonmalignant tissue, but also due to its almost universal expression on MM cells. Pre-clinical studies using CAR (Chimeric Antigen Receptor) T cells targeting BCMA have demonstrated anti-MM activity, and in 2017, the FDA granted BCMA CAR T-Cell immunotherapy the breakthrough designation in treating Multiple Myeloma.

Application

1. Useful for validation of anti-CD38 and anti-BCMA bispecific antibody.

2. Useful as CD38- and/or BCMA-expressing target cells in co-culture assay with CD38- and/or BCMA-CAR-T cells, for both CD38/BCMA-specific cell killing assay and cytokine production assay.

3. Useful for screening and validating antibodies against CD38 or BCMA and anti CD38 or anti-BCMA CAR-T for immunotherapy research and drug discovery.

Materials Provided

Components	Format
2 vials of frozen cells	2 x 10^6 cells in 1 ml of 10% DMSO

Host Cell

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

Mycoplasma Testing

The cell line has been screened using the MycoAlert™ Mycoplasma Detection kit (Lonza, #LT07-218) to confirm the absence of Mycoplasma species.

Materials Required but Not Supplied

These materials are not supplied with this cell line but are necessary for cell culture and cellular assays. BPS Bioscience reagents systems 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.

Materials Required for Cell Culture

Name	Ordering Information
Thaw Medium 3	BPS Bioscience #60186
Growth Medium 3K	BPS Bioscience #78041

Materials Required for Cellular Assay

Name	Ordering Information
ONE-Step™ Luciferase Assay System	BPS Bioscience #60690
96-well tissue culture-treated white clear-bottom assay plate	
Luminometer	

Storage Conditions

Cells will arrive upon 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. To formulate a comparable but not BPS validated media, formulation components can be found below.

Note: Thaw Media does *not* contain selective antibiotics. However, Growth Media *does* contain selective antibiotics, which are used for maintaining cell lines over many passages. Cells should be grown at 37°C with 5% CO_2 using Growth Medium 3K.

Media Required for Cell Culture

Thaw Medium 3 (BPS Bioscience, #60186):
Ham's F-12 medium (Hyclone #SH30526.01) supplemented with 10% FBS (Thermo Fisher, #26140079), 1% Penicillin/Streptomycin (Hyclone #SV30010.01).

Growth Medium 3K (BPS Bioscience #78041):
Thaw medium 3 (BPS Bioscience, #60186) plus 1000 µg/ml Geneticin (Thermo Fisher, #11811031), 5 µg/ml Puromycin (InvivoGen, #ant-pr-1) and 500 µg/ml of Hygromycin B (Thermo Fisher, #10687010) to ensure recombinant expression.

Assay Medium: Thaw Medium 3 (BPS Bioscience, #60186)

Cell Culture Protocol

Cell Thawing

1. To thaw the cells, it is recommended to quickly thaw the frozen cells from liquid nitrogen in a 37°C water-bath, then transfer the entire contents of the vial to a tube containing 10 ml of Thaw Medium 3 (**no Geneticin, Puromycin or Hygromycin B**).
2. Spin down the cells, remove supernatant and resuspend cells in 5 ml of pre-warmed Thaw Medium 3 (**no Geneticin, Puromycin or Hygromycin B**).

3. Transfer the resuspended cells to a T25 flask and incubate at 37°C in a 5% CO_2 incubator.
4. After 24 hours of culture, add an additional ~3 ml of Thaw Medium 3 (**no Geneticin, Puromycin or Hygromycin B**) and continue growing culture in a CO_2 incubator at 37°C until the cells are ready to be split.
5. Cells should be split before they are fully confluent. At first passage, switch to Growth Medium 3K (**contains Geneticin, Puromycin and Hygromycin B**).

Cell Passage

1. To passage the cells, remove the medium, rinse cells with phosphate buffered saline (PBS), and detach cells from culture vessel with 0.25% Trypsin/EDTA.
2. After detachment, add Growth Medium 3K **(contains Geneticin, Puromycin and Hygromycin B)** and transfer to a tube, spin down cells, resuspend cells in Growth Medium 3K and seed appropriate aliquots of cell suspension into new culture vessels. Sub cultivation ration: about 1:20 every 5 days.

Cell Freezing

1. To freeze down the cells, remove the medium, rinse cells with phosphate buffered saline (PBS), and detach cells from culture vessel with 0.25% Trypsin/EDTA.
2. After detachment, add Thaw Medium 3 (**no Geneticin, Puromycin or Hygromycin B**) and count the cells, then transfer to a tube, spin down cells, and resuspend in 4°C Freezing Medium (BPS Bioscience, #79796) at ~2 x 10^6 cells/ml.
3. Dispense 1 ml of cell aliquots into cryogenic vials. Place vials in an insulated container for slow cooling and store at -80°C overnight.
4. Transfer to liquid nitrogen the next day for storage.

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

Validation Data

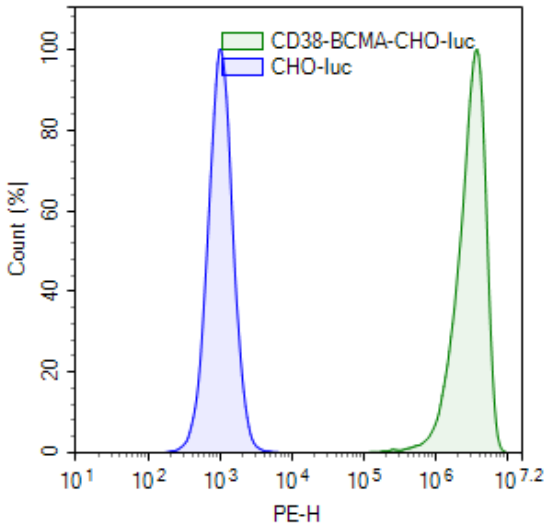

Figure 1. **Expression of CD38 validated by flow cytometry.**
Flow cytometry using PE-conjugated anti-human CD38 antibody (Biolegend, #303506) to detect CD38 surface expression on either the CD38 / BCMA / Firefly Luciferase - CHO Recombinant Cell Line (green) or parental CHO-luc cells (blue).

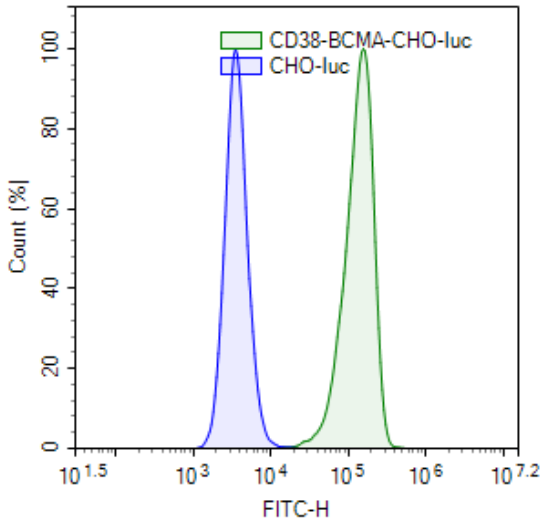

Figure 2. **Expression of BCMA validated by flow cytometry.**
Flow cytometry using FITC-conjugated anti-human BCMA antibody (R&D Systems, #FAB1931G) to detect BCMA surface expression on either the CD38 / BCMA / Firefly Luciferase - CHO Recombinant Cell Line (green) or parental CHO-luc cells (blue).

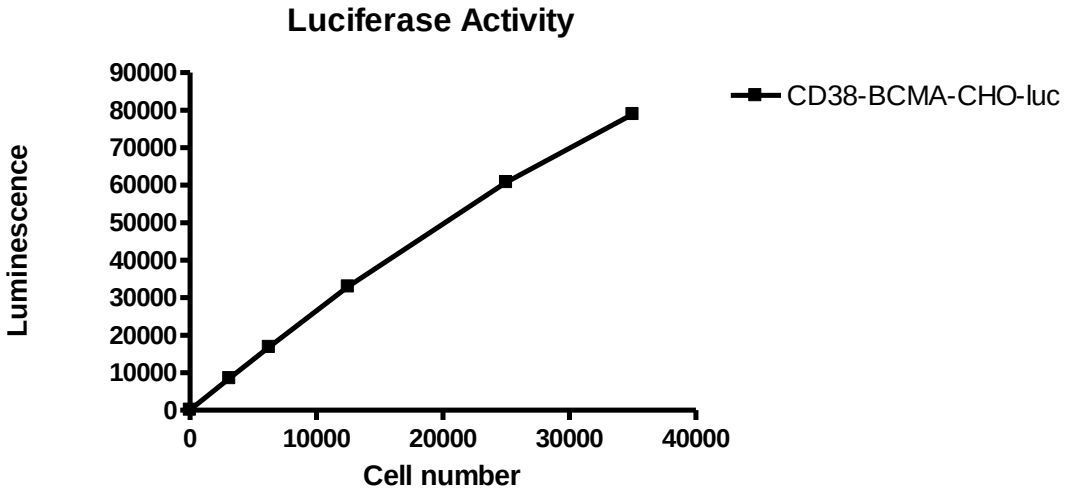

Figure 3. **Luciferase activity of CD38 / BCMA / Firefly Luciferase - CHO Recombinant Cells.**
CD38 / BCMA / Firefly Luciferase - CHO Recombinant Cells were seeded in a 96-well plate at various densities. After four hours, luciferase activity under CMV promoter was measured using the ONE-Step luciferase assay system (BPS Bioscience, #60690).

Sequence
Human CD38 sequence (accession number NM_001775)

MANCEFSPVSGDKPCCRLSRRAQLCLGVSILVLILVVVLAVVVPRWRQQWSGPGTTKRFPETVLARCVKYTEIHPEMRHVDCQS
VWDAFKGAFISKHPCNITEEDYQPLMKLGTQTVPCNKILLWSRIKDLAHQFTQVQRDMFTLEDTLLGYLADDLTWCGEFNTSKIN
YQSCPDWRKDCSNNPVSVFWKTVSRRFAEAACDVVHVMLNGSRSKIFDKNSTFGSVEVHNLQPEKVQTLEAWVIHGGREDSR
DLCQDPTIKELESIISKRNIQFSCKNIYRPDKFLQCVKNPEDSSCTSEI

Human BCMA sequence (accession number NM_001192)

MLQMAGQCSQNEYFDSLLHACIPCQLRCSSNTPPLTCQRYCNASVTNSVKGTNAILWTCLGLSLIISLAVFVLMFLLRKINSEPLKD
EFKNTGSGLLGMANIDLEKSRTGDEIILPRGLEYTVEECTCEDCIKSKPKVDSDHCFPLPAMEEGATILVTTKTNDYCKSLPAALSAT
EIEKSISAR

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*
BCMA-CHO Recombinant Cell Line (High Expression)	79500-H	2 vials
BCMA-CHO Recombinant Cell Line (Low Expression)	79500-L	2 vials
BCMA/Luciferase-CHO Recombinant Cell line	79724	2 vials
CD38-CHO Recombinant Cell Line (Various Expression)	79615	2 vials
Firefly Luciferase - CHO Recombinant Cell Line	79725	2 vials
Human BCMA (CD269)	90105	Various Sizes
Human BCMA, Fc-Fusion, Avi-Tag HiP™	79465	100 µg
Human BCMA, Fc-fusion (IgG1), Avi-Tag, Biotin-Labeled HiP™	79467	50 µg
Anti-BCMA Antibody	100173	Various Sizes
CD38 Inhibitor Screening Assay Kit (Cyclase Activity)	71275	96 reactions
CD38 Inhibitor Screening Assay Kit (Hydrolase Activity)	79287	96 reactions
CD38, Avi-His-Tag	100346	100 µg
CD38, His-Tag (Human), HiP™	71277	100ug
CD38-APC, His-Tag	71883	100 ug