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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Description

BCMA Knockout RPMI-8226 Cell Line is an RPMI-8226 cell line in which BCMA (B-Cell Maturation Antigen, or CD269) has been genetically removed from RPMI-8226 cells using CRISPR/Cas9 genome editing by RNP (ribonucleoprotein) electroporation.

This cell line has been validated by genome sequencing and flow cytometry.

Background

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

- Use as negative control in the development of biologics targeting BCMA.
- Use as a control in CAR-T or NK co-culture killing assays.

Materials Provided

Components	Format
2 vials of frozen cells	Each vial contains $>1 \times 10^6$ cells in 1 ml of Cell Freezing Medium (BPS Bioscience #79796)

Host Cell

RPMI-8226, human B cells isolated from a plasmacytoma/myeloma patient, suspension

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 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.

Materials Required for Cell Line Culture

Name	Ordering Information
Thaw Medium 10	BPS Bioscience #79704

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, the use of validated and optimized media from BPS Bioscience is *highly recommended*. Other preparations or formulations of media may result in suboptimal performance. Cells should be grown at 37°C with 5% CO₂. BPS Bioscience's cell lines are stable for at least 10 passages when grown under proper conditions.

Media Required for Cell Line Culture

Thaw Medium 10 (BPS Bioscience #79704):

RPMI 1640 (ATCC modification) medium supplemented with 10% FBS, 1 mM Sodium pyruvate, 1% Non-essential amino acids, 1% Penicillin/streptomycin.

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 10.

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 10.
3. Transfer the resuspended cells to a T25 flask and incubate at 37°C in a 5% CO₂ incubator.
4. After 24 hours of culture, check for cell viability. For a T25 flask, add 3-4 ml of Thaw Medium 10, 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 reach a density of 2×10^6 . At first passage and subsequent passages, use Thaw Medium 10.

Cell Passage

Dilute the cell suspension into new culture vessels at a minimum of 0.2×10^6 cells/ml in Thaw Medium 10. The recommended sub-cultivation ratio is 1:6 to 1:8 once or twice per week, so cells are maintained between 0.2×10^6 cells/ml and 2×10^6 cells/ml.

Cell Freezing

1. Spin down the cells at 300 x g for 5 minutes, remove the medium and resuspend the cell pellet in 4°C Cell Freezing Medium (BPS Bioscience #79796) at a density of $\sim 2 \times 10^6$ cells/ml.
2. 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.
3. 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.

Validation Data



Figure 1. Genomic sequencing of BCMA in the BCMA Knockout RPMI-8226 Cell Line.

Genomic DNA from the BCMA Knockout RPMI-8226 cells was isolated and sequenced. The PAM (Protospacer Adjacent Motif) is shown in blue, the sgRNA (synthetic guide RNA) is shown in green, and the Indels (Insertions/Deletions) in the two BCMA alleles are highlighted in red. The BCMA genomic DNA is labeled as gDNA.

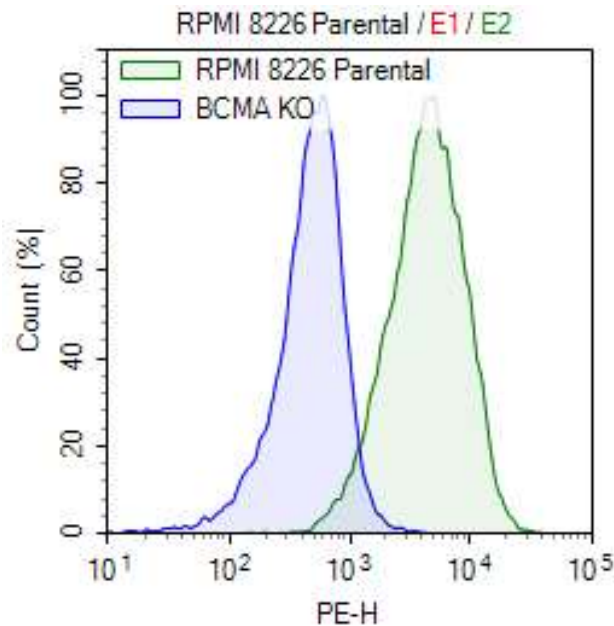


Figure 2. Flow cytometry analysis of BCMA expression in BCMA Knockout RPMI-8226 Cell Line.

Cells were stained with PE anti-human CD269 (BCMA) Antibody (BioLegend #357503) and analyzed by flow cytometry. The parental RPMI-8226 cells are shown in green, and the BCMA Knockout RPMI-8226 cells are shown in blue. The y axis shows the % of cells, while the x axis represents the fluorophore intensity.

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

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.

Notes

The CRISPR/CAS9 technology is covered under numerous patents, including U.S. Patent Nos. 8,697,359 and 8,771,945, as well as corresponding foreign patents applications, and patent rights.

Related Products

<i>Products</i>	<i>Catalog #</i>	<i>Size</i>
Anti-BCMA CAR-T Cells	78660	1 vial/5 vials
BCMA Lentivirus	78714	500 µl x 2
BCMA CRISPR/ Cas9 Lentivirus (Integrating)	78893	500 µl x 2
BCMA CHO Recombinant Cell Line (High or Low Expression)	79500	2 vials
BCMA/ Luciferase – CHO Recombinant Cell Line	79724	2 vials
Anti-BCMA Antibody	101219	100 µg

Version 082924