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Data Sheet

BCMA / GLuc - CHO Recombinant Cell Line
Cat. #: 79830

Product Description
Recombinant CHO-K1 cells constitutively expressing both the human BCMA protein (B-Cell Maturation Antigen or CD269, GenBank accession #NM_001192) and the Gaussia Luciferase (Δ Signal peptide). Surface expression of BCMA was confirmed by 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 non-malignant 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 for treating Multiple Myeloma.

Applications
- Useful as BCMA-expressing target cells in co-culture assays with BCMA CAR T-cells to screen for BCMA-specific cell killing

Format
Each vial contains 2 x 10^6 cells in 1 ml of FBS with 10% DMSO.

Storage
Store in liquid nitrogen immediately upon receipt.

Cell Culture
Thaw Medium 3 (BPS Bioscience #60186): Ham's F-12 medium supplemented with 10% FBS, 1% Penicillin/Streptomycin.

Growth Medium 3F (BPS Bioscience #79829): Thaw medium 3 (BPS Bioscience, #60186) plus 400 µg/ml of Geneticin and 100 µg/ml of Hygromycin B to ensure recombinant expression.

Cells should be grown at 37˚C with 5% CO_2 using Growth Medium 3F. BCMA / GLuc cells should exhibit a typical cell division time 14 hours.

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It is recommended to quickly thaw the frozen cells from liquid nitrogen in a 37°C water bath, transfer to a tube containing 10 ml of Thaw Medium 3 **(no Geneticin or Hygromycin B)**, spin the cells down, remove the supernatant, and then re-suspend the cells in pre-warmed Thaw Medium 3 **(no Geneticin or Hygromycin B)**. Then transfer the re-suspended cells to a T25 flask and culture in a 37˚C CO_2 incubator overnight. The next day, replace the medium with fresh Thaw Medium 3 **(no Geneticin or Hygromycin B)** and continue growing in a CO_2 incubator at 37°C until the cells are ready to be split. Cells should be split before they reach complete confluence. After the first passage, switch to Growth Medium 3XX **(contains Geneticin and Hygromycin B)**.

To passage the cells, rinse the cells with Phosphate Buffered Saline (PBS), detach the cells from the culture vessel with 0.05% Trypsin/EDTA, and add Growth Medium 3XX and transfer to a tube. Next, spin the cells down, remove the supernatant, and then re-suspend the cells and seed appropriate aliquots of the cell suspension into new culture vessels. Suggested sub-cultivation ratios: 1:10 to 1:20 twice a week.

To freeze the cells down, rinse the cells with Phosphate Buffered Saline (PBS), and detach the cells from the culture vessel with 0.05% Trypsin/EDTA. After detachment, add Thaw Medium 3 **(no Geneticin or Hygromycin B)** and count the cells, then transfer to a tube, spin the cells down, and resuspend in 4˚C Freezing Medium (10% DMSO + 90% FBS) at ~2 x 10^6 cells/ml. Dispense 1 ml of cell aliquots into each cryogenic vial. Place vials in an insulated container for slow cooling and store at -80˚C overnight. The next day, transfer the vials to liquid nitrogen for storage. It is recommended to expand the cells and freeze down more than 10 vials of cells for future use at early passages.

Mycoplasma Testing
This cell line has been screened using the MycoAlert™ Mycoplasma Detection Kit (Lonza, #LT07-118) to confirm the absence of Mycoplasma contamination. MycoAlert Assay Control Set (Lonza, #LT07-518) was used as a positive control.

Materials Required by Not Supplied
- Thaw Medium 3 (BPS Bioscience, #60186)
- Growth Medium 3F (BPS Bioscience, #79829)
- 96-well tissue culture-treated white clear-bottom assay plate
- Cell lysis buffer
- Coelenterazine (NanoLight, #303)
- Luminometer

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Figure 1. FACS analysis of cell surface expression of BCMA in BCMA / GLuc CHO recombinant cells.
Flow cytometry using PE-conjugated anti-human BCMA antibody (Biolegend, #357503) to detect BCMA surface expression on either the BCMA / GLuc recombinant cells (green) or parental CHO-K1 cells (blue).

FACS analysis: BCMA / GLuc CHO recombinant cells with PE labeled anti-BCMA

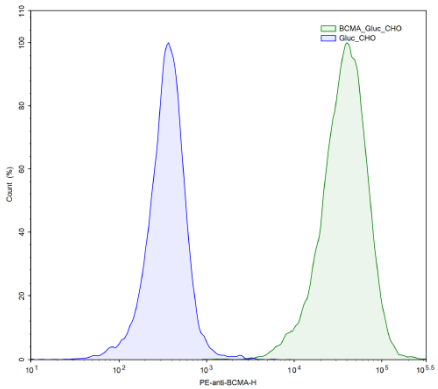
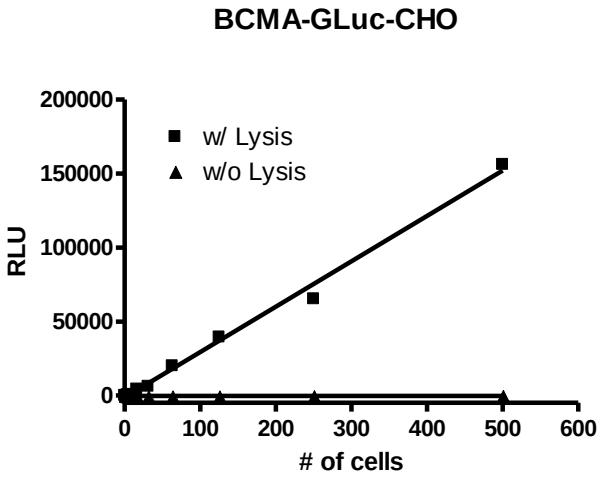


Figure 2. Luciferase activity of BCMA / GLuc CHO recombinant cells.
BCMA / GLuc CHO recombinant cells (100 µl) were seeded in a 96-well plate at various densities. The next day, cell were lysed and 5 µL of the lysates was used with 20 µM Coelenterazine to measure the GLuc activity.



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Sequence
Human BCMA sequence (accession number NM_001192)

MLQMAGQCSQNEYFDSLLHACIPCQLRCSSNTPPLTCQRYCNASVTNSVKGTNAILWTCLGLSLIISLAV
FVLMFLLRKINSEPLKDEFKNTGSGLLGMANIDLEKSRTGDEIILPRGLEYTVEECTCECIKSKPKVDSD
HCFPLPAMEEGATILVTTKTNDYCKSLPAALSATEIEKSISAR

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Related Products

Product	Cat. #	Size
BCMA-CHO Recombinant Cell Line (Medium Expression)	79500-M	2 vials
BCMA-CHO Recombinant Cell Line (Low Expression)	79500-L	2 vials
Human BCMA (CD269)	90105-A	5 µg
Human BCMA (CD269)	90105-B	20 µg
Human BCMA, Fc-Fusion, Avi-Tag HiP™	79465	100 µg
Human BCMA, Fc-fusion (IgG1), Avi-Tag, Biotin-Labeled HiP™	79467	50 µg
Human BAFF	90100-1	10 µg
Human BAFF	90100-2	100 µg
Human BAFF	90100-3	1 mg
Human BAFF-R(CD268)	90103-A	10 µg
Human BAFF-R(CD268)	90103-B	50 µg
Anti-BCMA Antibody	100173-1	50 µg
Anti-BCMA Antibody	100173-2	100 µg
BAFF:BCMA[Biotinylated] Inhibitor Screening Assay Kit	79667	96 rxns