Genomeditech (Shanghai) Co.,Ltd.
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Product Sheet

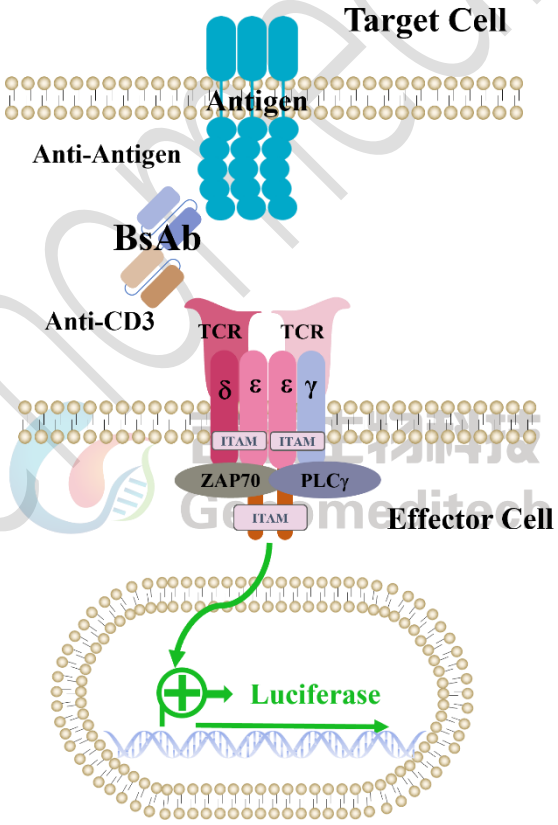
Jurkat CD3-BsAb Reporter Cell Line

Catalog number: GM-C17940

Version 3.3.1.250219

Bispecific antibodies (BsAb) are an emerging cancer treatment strategy. Unlike traditional monoclonal antibodies, which use two Fab arms to recognize the same antigen, bispecific antibodies can recognize different antigens on each of their two binding arms. Among various bispecific antibodies, T Cell Engagers (TCEs) are particularly noteworthy because they can effectively enable T cells to recognize and kill tumor cells.

Jurkat CD3-BsAb Reporter Cell Line is a clonal stable Jurkat cell line with signal-dependent expression of a luciferase reporter gene constructed using lentiviral technology, and it endogenously expresses TCR-CD3 complex. T Cell Engager bispecific antibodies bridge T cells and tumor cells by binding to the TCR-CD3 complex on T cells and tumor-associated antigens on tumor cells, thereby activating the TCR signaling pathway. The bioactivity of T Cell Engager bispecific antibodies can be quantified by the production of luciferase, as TCR activation transmits signals to the cell nucleus, driving luciferase expression. Therefore, this cell line can be used as a tool for research on antibody drugs targeting T Cell Engagers.



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Specifications

Quantity	5E6 Cells per vial,1 mL
Product Format	1 vial of frozen cells
Shipping	Shipped on dry ice
Storage Conditions	Liquid nitrogen immediately upon receipt
Recovery Medium	RPMI 1640+10% FBS+1% P.S
Growth medium	RPMI 1640+10% FBS+1% P.S+3.5 μg/mL Blasticidin
Note	None
Freezing Medium	90% FBS+10% DMSO
Growth properties	Suspension
Growth Conditions	37°C, 5% CO_2
Mycoplasma Testing	The cell line has been screened to confirm the absence of Mycoplasma species.
Safety considerations	Biosafety Level 2
Note	It is recommended to expand the cell culture and store a minimum of 10 vials at an early passage for potential future use.

Materials

Reagent	Manufacturer/Catalogue No.
RPMI 1640	VivaCell/C3010-0500
Fetal Bovine Serum	Cegrogen biotech/A0500-3010
Pen/Strep	Thermo/15140-122
Blasticidin	Genomeditech/GM-040404
Raji Cell Line	Genomeditech/GM-C19100
H_CD19 CHO-K1 Cell line	Genomeditech/GM-C19025
Anti-CD3-CD19 Bispecific Antibody(Blinatumomab)	Genomeditech/GM-79712AB
Anti-CD3 epsilon hIgG1 Antibody [OKT-3 (muromonab)]	Genomeditech/GM-51478AB
Anti-H_CD19 hIgG1/hIgG2 Antibody(Tafasitamab)	Genomeditech/GM-28777AB
GMOne-Step Luciferase Reporter Gene Assay Kit	Genomeditech/GM-040503

Figures

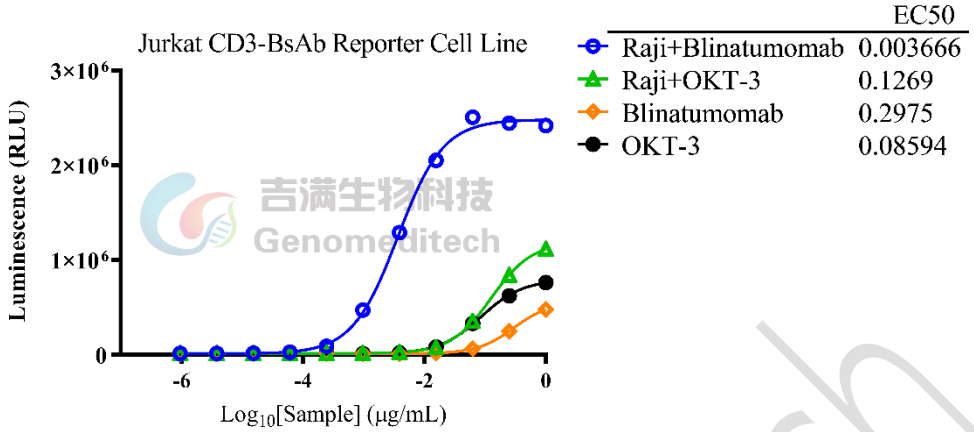


Figure 1 | Response to Blinatumomab and OKT-3 (muromonab). Serial dilutions of the Anti-CD3-CD19 Bispecific Antibody(Blinatumomab) (Cat. GM-79712AB) or Anti-CD3 epsilon hIgG1 Antibody [OKT-3 (muromonab)] (Cat. GM-51478AB) were added to 1E5 cells/well of Raji cell line (Cat. GM-C19100), while the control group did not include Raji cells, and 1E5 cells/well of the Jurkat CD3-BsAb Reporter Cell Line (Cat. GM-C17940) for 7 hours. Firefly luciferase activity is then measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). Data are shown by drug mass concentration.

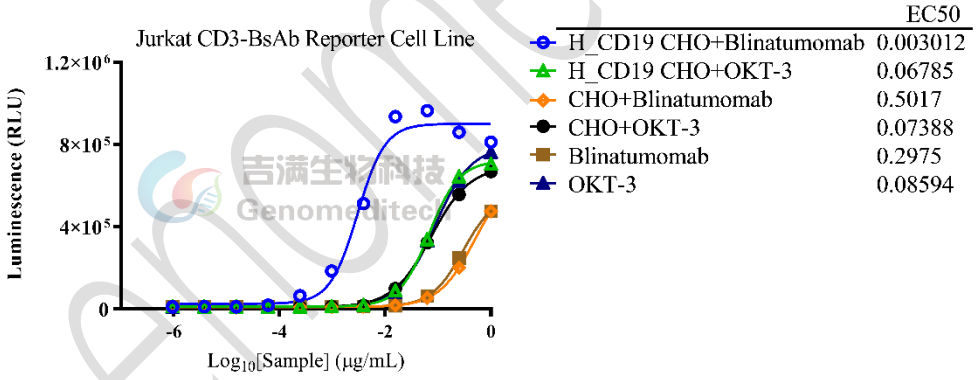
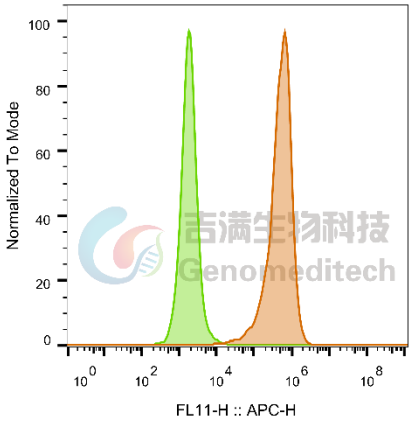


Figure 2 | Response to Blinatumomab and OKT-3 (muromonab). Serial dilutions of the Anti-CD3-CD19 Bispecific Antibody(Blinatumomab) (Cat. GM-79712AB) or Anti-CD3 epsilon hIgG1 Antibody [OKT-3 (muromonab)] (Cat. GM-51478AB) were added to 1E4 cells/well of H_CD19 CHO-K1 Cell line (Cat. GM-C19025), while the control groups included CHO-K1 or did not include CHO-K1, and 1E5 cells/well of the Jurkat CD3-BsAb Reporter Cell Line (Cat. GM-C17940) for 7 hours. Firefly luciferase activity is then measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). Data are shown by drug mass concentration.



SampleID	Geometric Mean : FL11-H
Raji Cell Line anti-H_CD19+APC-2nd Ab	4.69E5
Raji Cell Line H_IgG+APC-2nd Ab	1852

Figure 3 | Raji Cell Line was determined by flow cytometry using Anti-H_CD19 hIgG1/hIgG2 Antibody(Tafasitamab) (Cat. GM-28777AB).

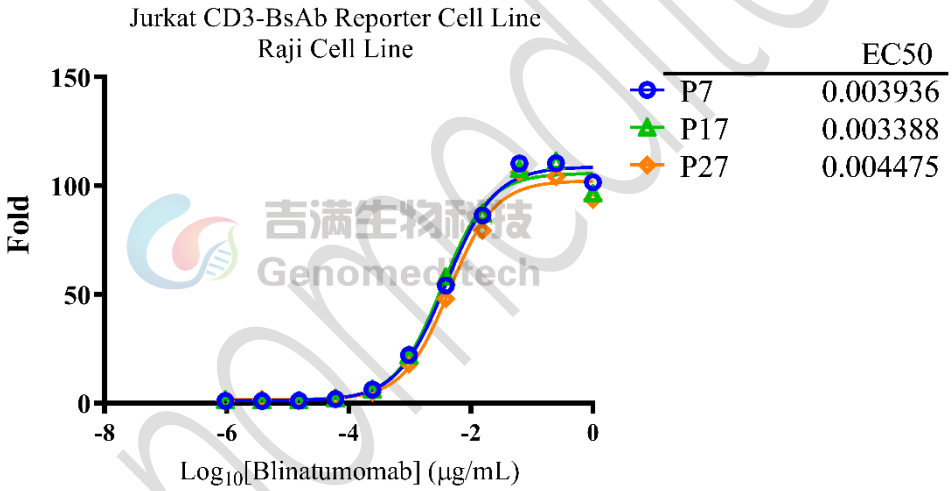


Figure 4 | The passage stability of response to Anti-CD3-CD19 Bispecific Antibody(Blinatumomab). The passage 7, 17, and 27 of Jurkat CD3-BsAb Reporter Cell Line (Cat. GM-C17940) at a concentration of 1E5 cells/well was co-cultured with Raji cells (Cat. GM-C19100) that express CD19 endogenously at a concentration of 1E5 cells/well, in the presence of serial dilutions of the Anti-CD3-CD19 Bispecific Antibody(Blinatumomab) (Cat. GM-79712AB) in assay buffer (RPMI 1640+1% FBS+1% P.S) for 7 hours (96-well format). The firefly luciferase activity was measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). Data are shown by drug mass concentration.

Cell Recovery

Recovery Medium: RPMI 1640+10% FBS+1% P.S

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To insure the highest level of viability, thaw the vial and initiate the culture as soon as possible upon receipt. If upon arrival, continued storage of the frozen culture is necessary, it should be stored in liquid nitrogen vapor phase and not at -70°C. Storage at -70°C will result in loss of viability.

a) Thaw the vial by gentle agitation in a 37°C water bath. To reduce the possibility of contamination, keep the O-ring and cap out of the water. Thawing should be rapid (approximately 2 - 3 minutes).
b) Remove the vial from the water bath as soon as the contents are thawed, and decontaminate by dipping in or spraying with 70% ethanol. All of the operations from this point on should be carried out under strict aseptic conditions.
c) Transfer the vial contents to a centrifuge tube containing 5.0 mL complete culture medium. And spin at approximately 176 x g for 5 minutes. Discard supernatant.
d) Resuspend cell pellet with the recommended complete medium. And dispense the suspension into 1 - 2 T-25 culture flasks.
e) Incubate the culture at 37°C in a suitable incubator. A 5% CO_2 in air atmosphere is recommended if using the medium described on this product sheet.

Cell Freezing

Freezing Medium: 90% FBS+10% DMSO

a) Centrifuge at 176 x g for 3 minutes to collect cells.
b) Resuspend the cells in pre-cooled freezing medium and adjust the cell density to 5E6 cells/mL.
c) Aliquot 1 mL into each vial.
d) Place the vial in a controlled-rate freezing container and store at -80°C for at least 1 day, then transfer to liquid nitrogen as soon as possible.

Cell passage

Growth medium: RPMI 1640+10% FBS+1% P.S+3.5 μg/mL Blasticidin

Approximately 48-72 hours after the initial thawing, the cells can be passaged for the first time. After this initial passage, the culture medium can be adjusted to growth medium supplemented with antibiotics. If cells are not passaged within 48 hours, it is recommended to add some fresh recovery medium and place the flask horizontally.

a) When the cell density reaches 1.5 - 2E6 cells/mL, subculture the cells. Do not allow the cell density to exceed 2E6 cells/mL.
b) It is recommended to use T-25 flasks for subculturing.
c) These cells are suspension cells, and it is recommended to use the "half-medium change" method to maintain optimal cell conditions during passaging.
d) During passaging, you can directly add fresh growth medium to the culture flask, gently pipette to resuspend the cells, and then transfer the cell suspension to a new T-25 flask for continued culture.

Subcultivation Ratio: Maintain cultures at a cell concentraion between 3E5 and 1E6 viable cells/mL.

Medium Renewal: Every 2 to 3 days

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Notes

a) These cells are sensitive to density, so please ensure that the cell density is maintained within an appropriate range during culture and subculturing.

b) During the first passage, pay attention to the nutrient supply; if not subculturing, make sure to add fresh recovery medium every other day as needed.

Related Products

CD28	
H_CD28 Reporter Jurkat Cell Line	Cynomolgus_CD28 CHO-K1 Cell Line
H_CD28 CHO-K1 Cell Line	H_CD28 HEK-293 Cell Line
Anti-CD28 hIgG4 Antibody(FR104)	Anti-H_CD28 hIgG4 Antibody(Theralizumab)
Anti-mouse CD28 Syrian Hamster IgG2 Antibody(37. 51)	
CD3	
Cynomolgus_CD3 HEK-293 Cell Line	Cynomolgus_CD3E(Membrane Bound ECD) CHO-K1 Cell Line
H_CD3 CHO-K1 Cell Line	H_CD3 HEK-293 Cell Line
H_CD3E(Membrane Bound ECD) CHO-K1 Cell Line	Mouse_CD3 HEK-293 Cell Line
Anti-CD3 epsilon hIgG1 Antibody [OKT-3 (muromonab)]	Anti-CD3 hIgG1 Antibody(CH2527)

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