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# Product Sheet

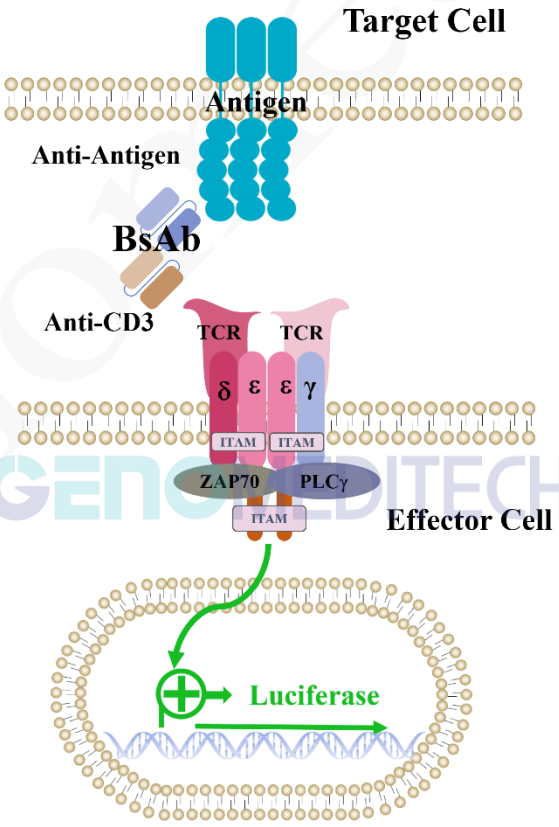
## Jurkat CD3-BsAb Reporter Cell Line

Catalog number: GM-C17940

Version 4.0.26.1023

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.



## Specifications

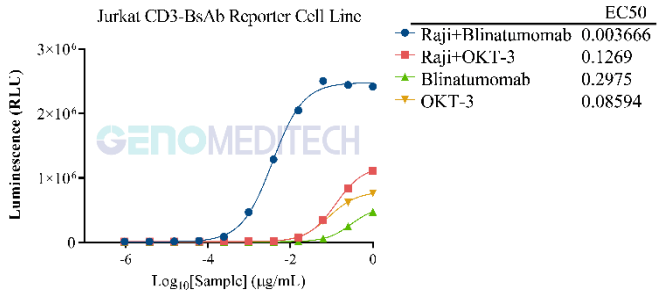
| | |
|---|---|
| **Quantity** | 5E6 Cells per vial,1 mL |
| **Product Format** | 1 vial of frozen cells |
| **Shipping** | Shipped on dry ice |
| **Storage Conditions** | Liquid nitrogen immediately upon receipt |
| **Recovery Medium** | RPMI 1640+10% FBS+1% P.S |
| **Growth medium** | RPMI 1640+10% 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

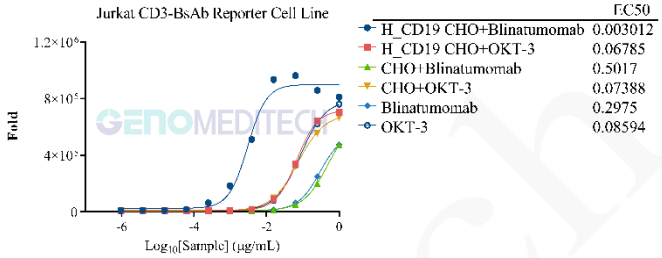
| Reagent | Manufacturer/Catalogue No. |
|---|---|
| RPMI 1640 | gibco/C11875500BT |
| Fetal Bovine Serum | ExCell/FSP500 |
| Pen/Strep | Thermo/15140-122 |
| Blasticidin | Genomeditech/GM-040404 |
| Raji Cell Line | Genomeditech/GM-C19100 |
| H_CD19 CHO-K1 Cell line | Genomeditech/GM-C19025 |
| Anti-CD3-CD19 Bispecific Antibody(Blinatumomab) | Genomeditech/GM-79712AB |
| Anti-CD3 epsilon hIgG1 Antibody [OKT-3 (muromonab)] | Genomeditech/GM-51478AB |
| Anti-CD3 hIgG1 Antibody(CH2527) | Genomeditech/GM-33037AB |
| Anti-H_CD19 hIgG1/hIgG2 Antibody(Tafasitamab) | Genomeditech/GM-28777AB |
| GMOne-Step 2.0 Luciferase Reporter Gene Assay Kit | Genomeditech/GM-040513 |
| 96 well round cell culture plate | PakGent/CL-PT096 |
| 96-well White Opaque Plate | Thermo/236108 |
| 96-well U-bottom Plate | Saining/1014010 |
| Countess 3 Automated Cell Counter | ThermoFisher/A49891 |
| SpectraMax® L Microplate Luminometer | Moleculardevices/SpectraMax L |

# Data

## Applications

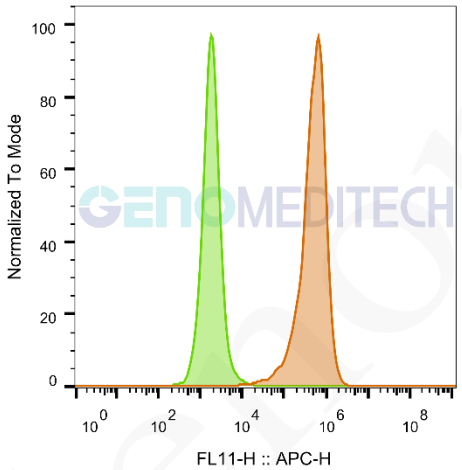



Response to Blinatumomab and OKT-3 (muromonab). Serial dilutions of the Anti-CD3-CD19 Bispecific Antibody(Blinatumomab) (Cat. GM-79712AB) or Anti-CD3 epsilon hIgG1 Antibody [OKT-3 (muromonab)] (Cat. GM-51478AB) were added to 1E5 cells/well of Raji cell line (Cat. GM-C19100), while the control group did 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 Luciferase Reporter Assay Kit (Genomeditech). Data are shown by drug mass concentration.



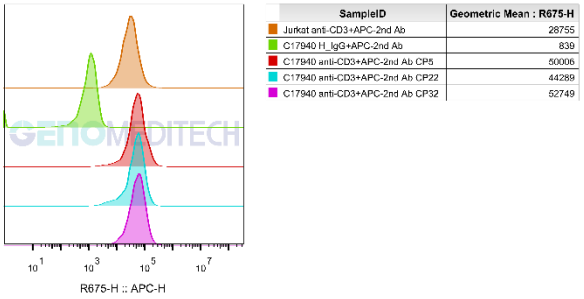

Response to Blinatumomab and OKT-3 (muromonab). Serial dilutions of the Anti-CD3-CD19 Bispecific Antibody(Blinatumomab) (Cat. GM-79712AB) or Anti-CD3 epsilon hIgG1 Antibody [OKT-3 (muromonab)] (Cat. GM-51478AB) were added to 1E4 cells/well of H_CD19 CHO-K1 Cell line (Cat. GM-C19025), while the control 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 Luciferase Reporter Assay Kit (Genomeditech). Data are shown by drug mass concentration.

## Expression




| 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 |

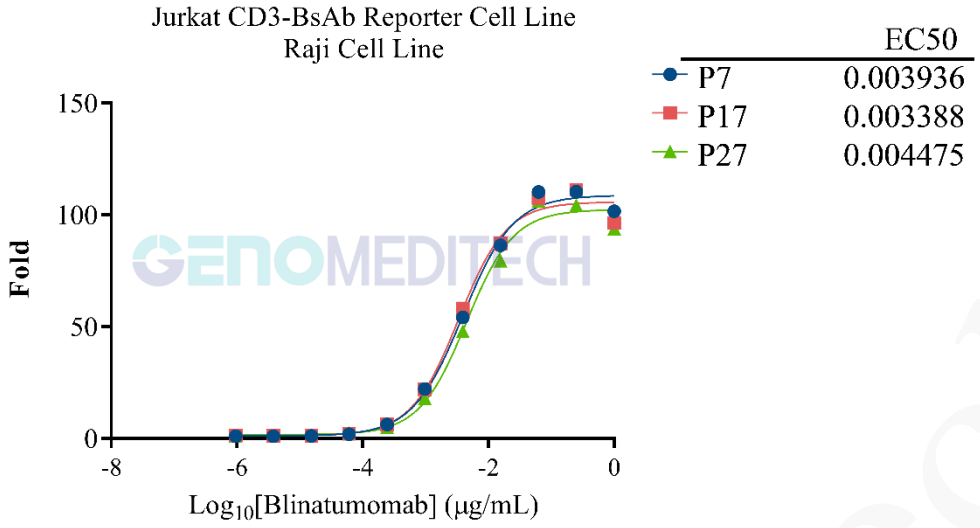
Raji Cell Line was determined by flow cytometry using Anti-H_CD19 hIgG1/hIgG2 Antibody(Tafasitamab) (Cat. GM-28777AB).




| SampleID | Geometric Mean : R675-H |
|---|---|
| Jurkat anti-CD3+APC-2nd Ab | 28755 |
| C17940 H_IgG+APC-2nd Ab | 839 |
| C17940 anti-CD3+APC-2nd Ab CP5 | 50006 |
| C17940 anti-CD3+APC-2nd Ab CP22 | 44289 |
| C17940 anti-CD3+APC-2nd Ab CP32 | 52749 |

Jurkat CD3-BsAb Reporter Cell Line (Cat. GM-C17940) was determined by flow cytometry using Anti-CD3 hIgG1 Antibody(CH2527) (Cat. GM-33037AB).

**Stability**




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 Luciferase Reporter Assay Kit (Genomeditech). Data are shown by drug mass concentration.

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## Cell Recovery

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

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

## 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 |
| H_CD28 KO Jurkat Cell Line | |
| Anti-CD28 hIgG4 Antibody(FR104) | Anti-H_CD28 hIgG4 Antibody(Theralizumab) |
| Anti-mouse CD28 Syrian Hamster IgG2 Antibody(37. 51) | |
| Human CD28 Protein; His Tag | |
| CD19 | |
| H_CD19 KO Raji Cell Line | Cynomolgus_CD19 CHO-K1 Cell Line |
| Cynomolgus_CD19 HEK-293 Cell Line | H_CD19 CHO-K1 Cell line |
| H_CD19 HEK-293 Cell Line | Mouse_CD19 CHO-K1 Cell Line |
| Anti-CD19 hIgG1 Reference Antibody (Loncbio) | Anti-CD19×CD3 hIgG1 Antibody[PIT-565(CD58 K34A)] |
| Anti-H_CD19 hIgG1/hIgG2 Antibody(Tafasitamab) | |
| CD3 | |
| Cynomolgus_CD3D CD3E Reporter Jurkat(CD3DE KO) Cell Line | 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_CD3(TCR V2) CHO-K1 Cell Line |
| H_CD3(TCR V2) HEK-293 Cell Line | H_CD3(TCRαβ delta V) HEK-293 Cell Line |
| H_CD3D CD3E KO Jurkat Cell Line | H_CD3E KO Jurkat Cell Line |
| H_CD3E(Membrane Bound ECD) CHO-K1 Cell Line | Mouse_CD3 HEK-293 Cell Line |
| Anti-CD19×CD3 hIgG1 Antibody[PIT-565(CD58 K34A)] | Anti-CD3 epsilon hIgG1 Antibody [OKT-3 (muromonab)] |
| Anti-CD3 hIgG1 Antibody(CH2527) | Anti-CD3×CD20 hIgG1 Bispecific Antibody (Epcobio) |
| Anti-CD3×FCRL5 hIgG1 Bispecific Antibody(cevostamab) | Anti-CD3E×BCMA hIgG4 Reference Antibody (Tecbio) |
| Anti-CD3E×DLL3 hIgG1 Bispecific Antibody(Tarlabio) | Anti-CD3E×MUC17 hIgG1 Bispecific Antibody(Vepsitbio) |
| Anti-mouse CD3ε mIgG2a Antibody(145-2C11) | |
| Cynomolgus CD3E Protein; hFc Tag | Human CD3E Protein; hFc Tag |
| CD2 | |
| H_CD2 KO Jurkat(CD3-) Cell Line | CD3-CD2-tsAb Reporter Jurkat(CD58 KO) Cell Line |
| Cynomolgus_CD2 CHO-K1 Cell Line | H_CD2 CHO-K1 Cell Line |
| H_CD2 HEK-293 Cell Line | H_CD2 KO Jurkat(CD3+) Cell Line |
| Anti-CD19×CD3 hIgG1 Antibody[PIT-565(CD58 K34A)] | Anti-CD2 hIgG1 Antibody(BTI-322) |
| Human CD2 Protein; hFc Tag | Human CD2 Protein; His Tag |

## License Agreement

By purchasing and using this cell line product, the user voluntarily agrees to accept and abide by the following policies:

- This cell line product is restricted to research use only and shall not be used for any commercial purposes.
- This product is strictly prohibited from being used in the diagnosis or treatment of human or animal diseases, and shall not be directly used in experiments involving humans.
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